

2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

DOMBRA ARCHITECTS

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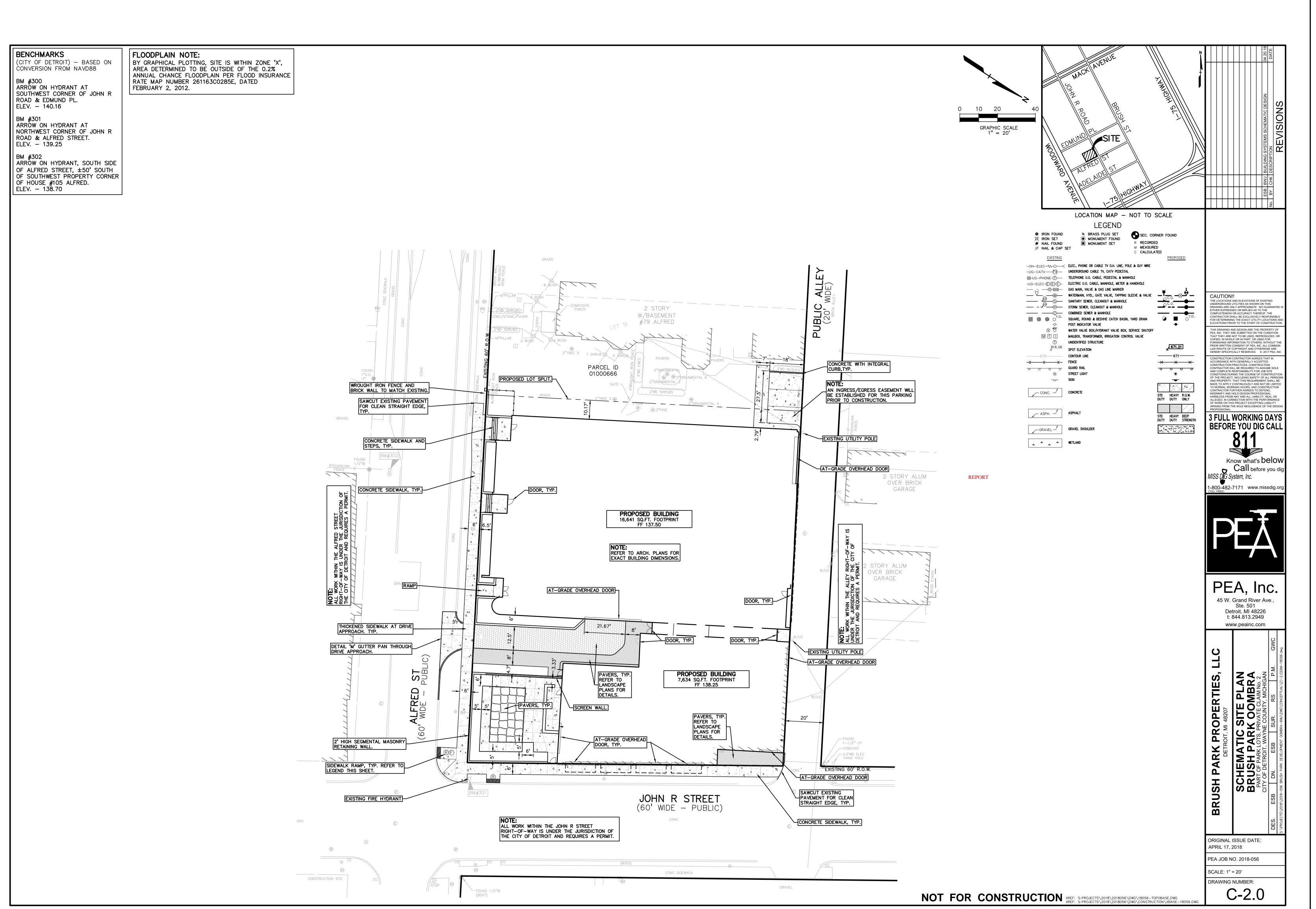
DRAWING ISSUE	DATE
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

TOPOGRAPHIC SURVEY

C-10

SCALE: AS INDICATED

REPORT



1003

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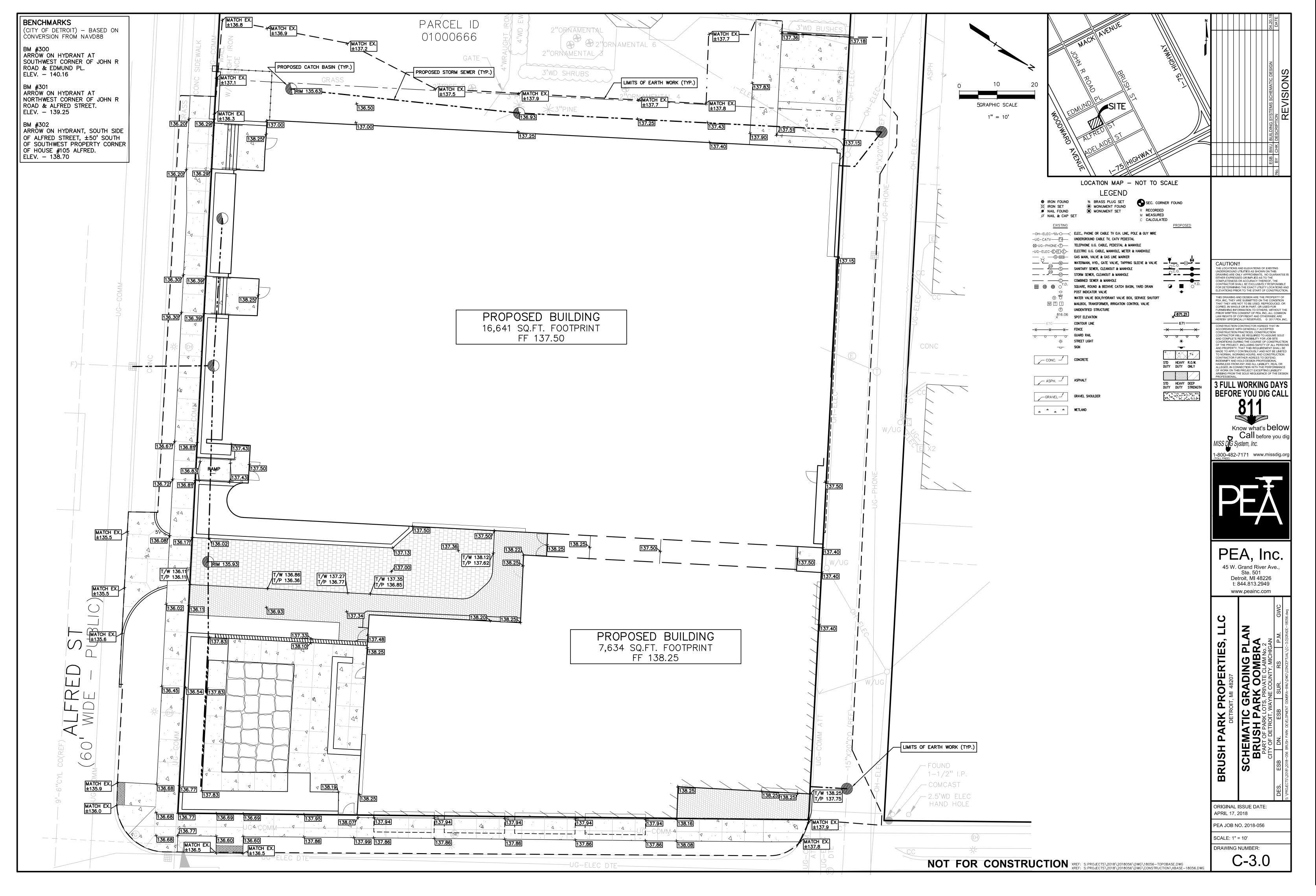
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SCHEMATIC SITE PLAN

C-2.0

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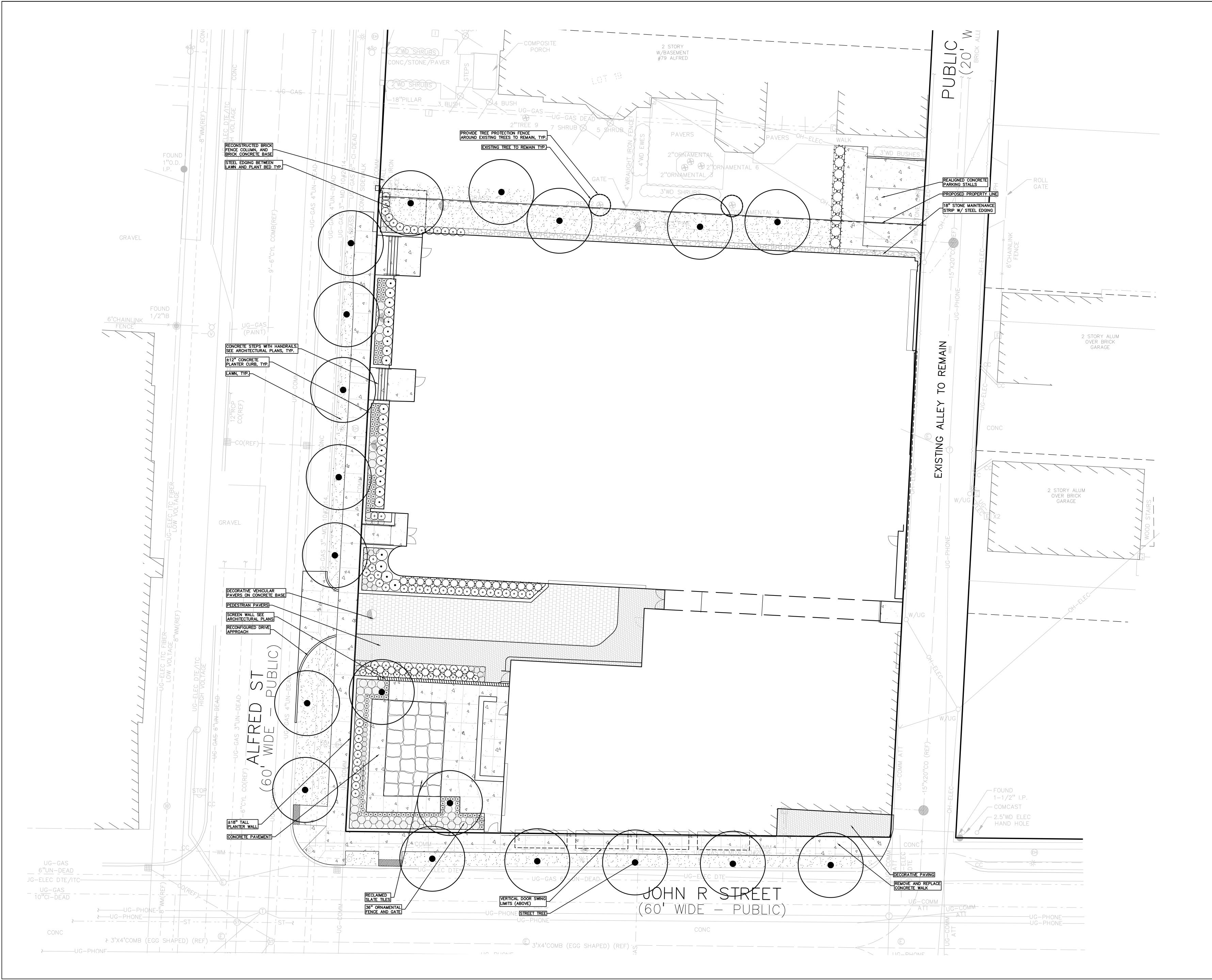
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SCHEMATIC GRADING PLAN

C-3.0



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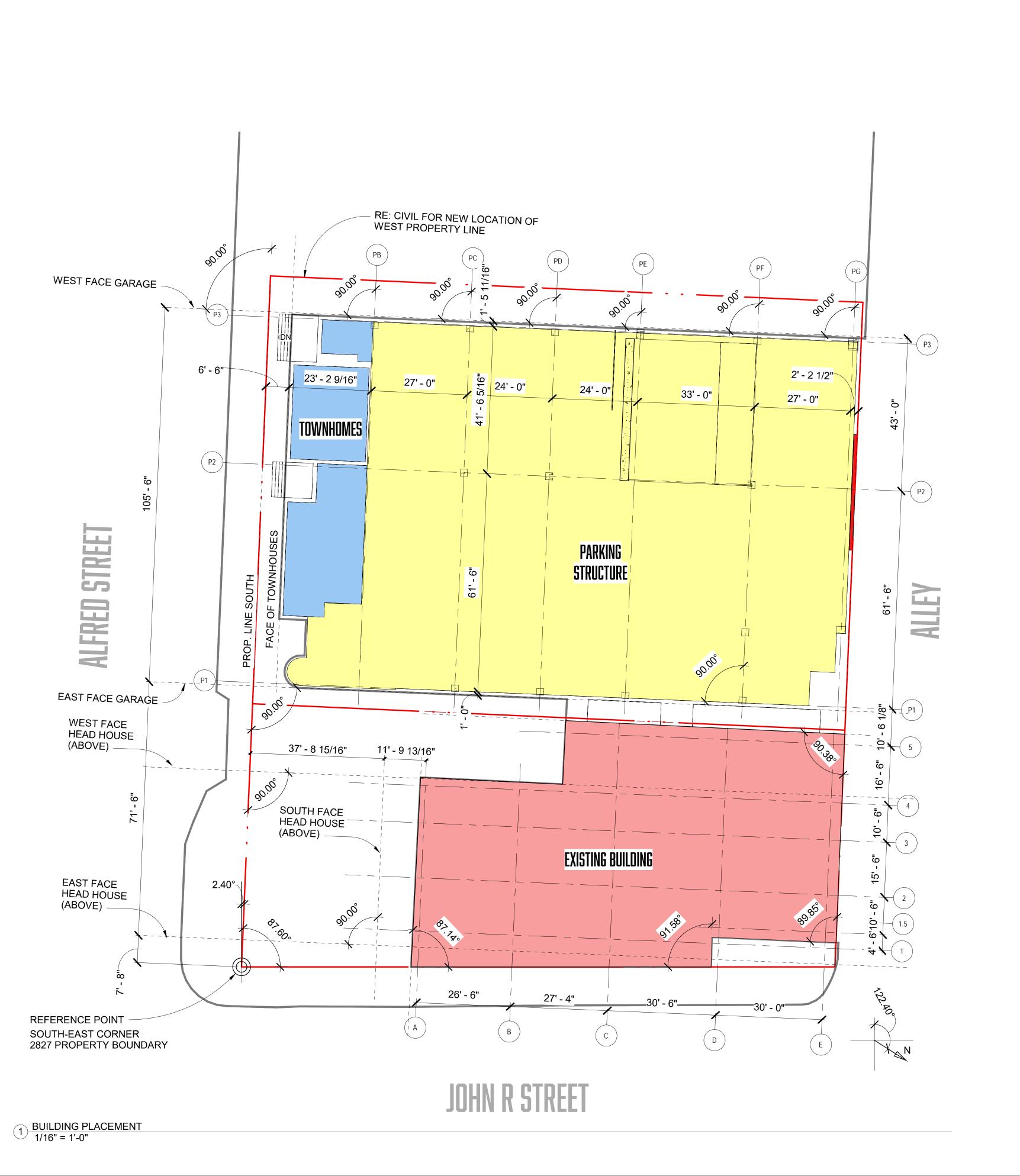
DRAWING ISSUE	DATE
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.201
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SCALE: 1" = 10'

SCHEMATIC LANDSCAPE PLAN

L-10





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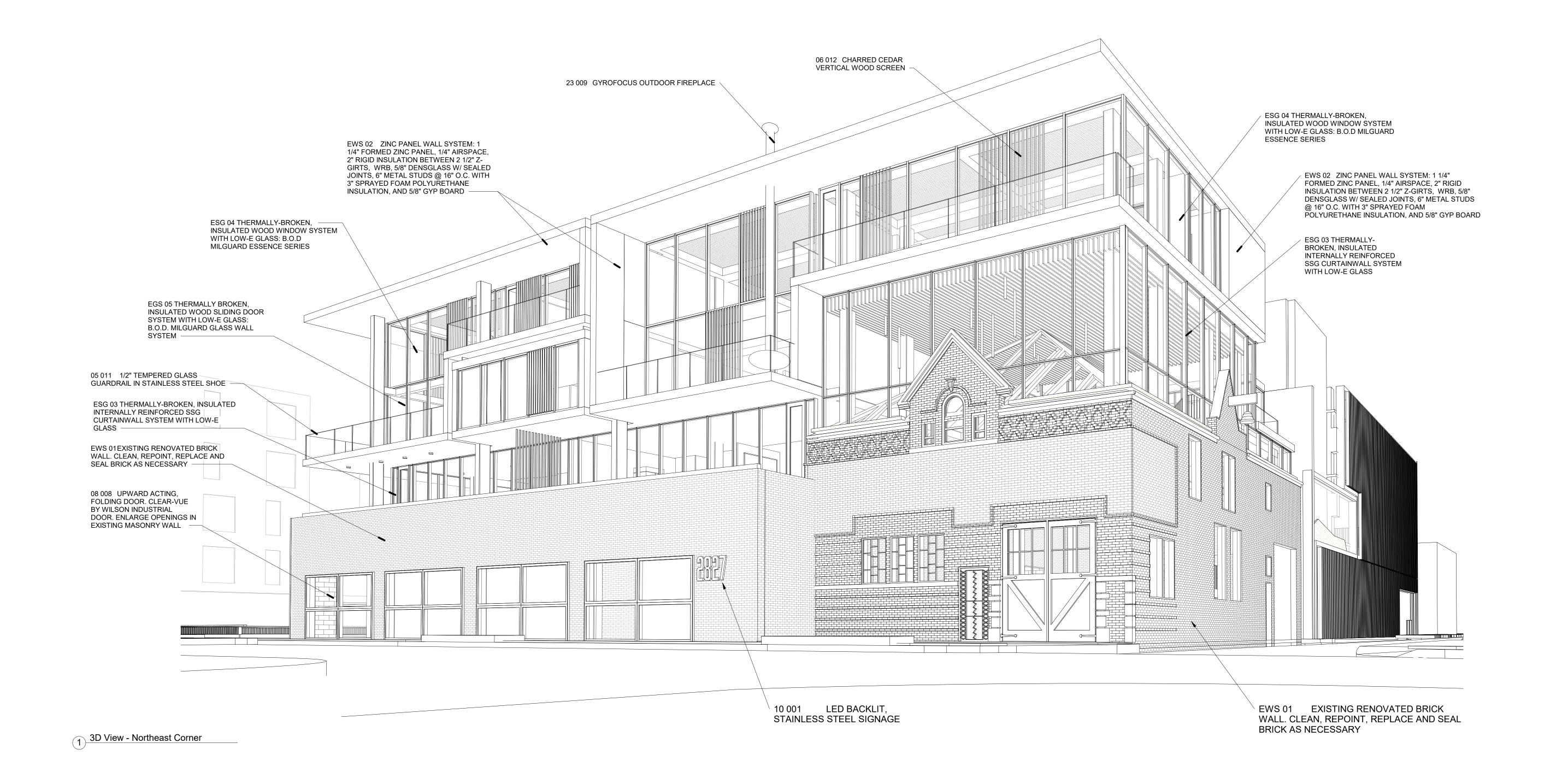
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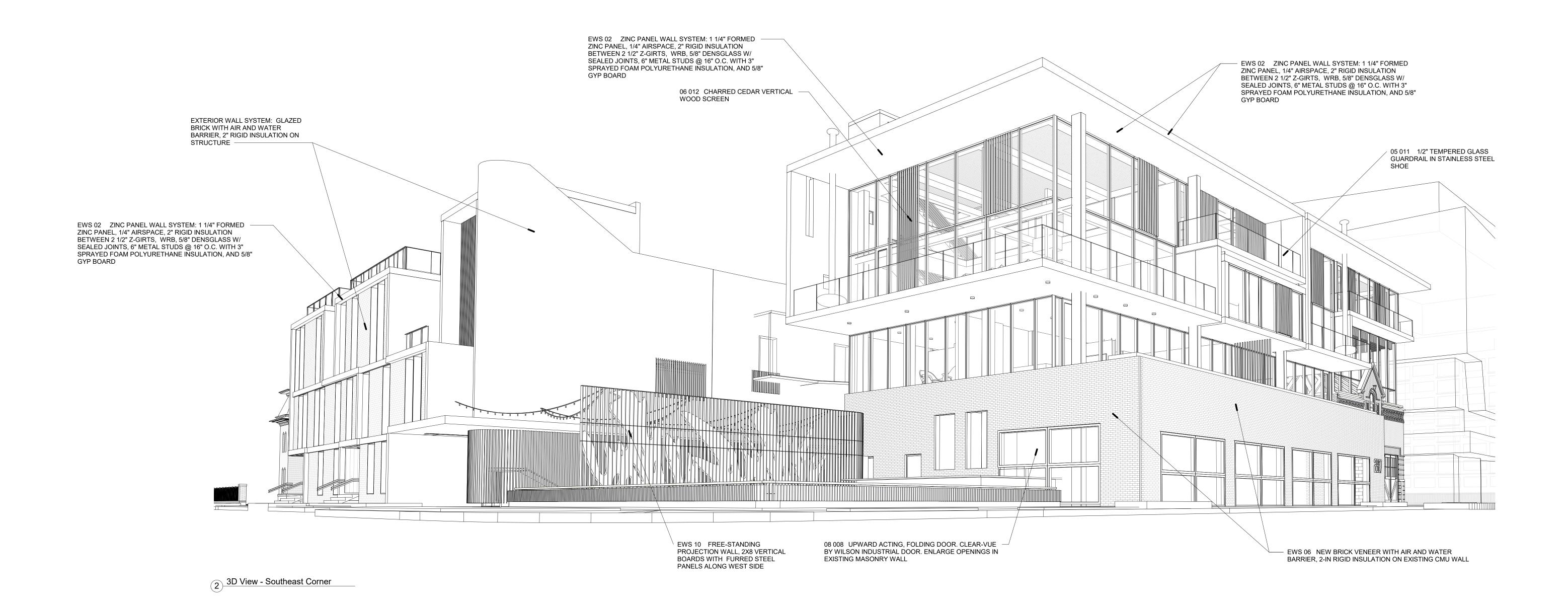
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BUILDING PLACEMENT AND SITE PLAN

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DRAWING ISSUE	DA
CONCEPTUAL DESIGN	11.16.2
SCHEMATIC DESIGN	01.18.2
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2

PERSPECTIVE VIEWS

A002

SCALE : AS INDICATED 4/21/2018 2:01:33 PM





1003 | 2827 John R Schematic Design | Pricing Narrative

> 2827 John R Street Brush Park Detroit, MI January 18, 2018

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EXTERIOR NARRATIVE

STRUCTURAL SYSTEMS:

BASIS-OF-DESIGN:

CAST-IN-PLACE CONCRETE STRUCTURE HYBRID - HEAVY TIMBER & STEEL



(IMAGES SHOWN FOR REFERENCE ONLY)

MEPFP SYSTEMS:

BASIS-OF-DESIGN: ASSUME THE FOLLOWING FOR PRICING: GENERATOR TO SUPPORT LIFE SAFETY

INDIVIDUAL WATER HEATERS IN EACH SUITE

 COOLING TOWER LOCATED IN MECHANICAL ENCLOSURE ON ROOF WSHP CLOSET IN EACH SUITE

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ARCHITECTURE:

VERTICAL SURFACES:

EXTERIOR WALL SYSTEMS:

EWS 01 EXISTING RENOVATED BRICK WALL. CLEAN, REPOINT, REPLACE AND SEAL BRICK AS NECESSARY. 2x4 INTERIOR FURRING AT 24" O.C., 3" CLOSED-CELL SPRAY INSUL, 5/8" GYP, PAINTED.

EWS 02 ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 2 1/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM POLYURETHANE INSULATION, AND 5/8" GYP BOARD EWS 03 FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, CMU, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD.

EWS 04 STUCCO WALL SYSTEM: STANDARD THREE-COAT PORTLAND CEMENT PLASTER W ACRYLIC FINISH COAT, LATH, WATER RESISTANT BARRIER, 5/8" DENSGLAS W SEALED JOINTS ON 6" MTL STUDS AT 16", FULL THK INSUL, SHEET VAPOR BARRIER, 5/8" GYP BOARD. EWS 05 STONE VENEER WALL SYSTEM: PIETRA CARDOSA STONE VENEER, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 6" UNFACED BATT INSULATION, SHEET VAPOR BARRIER, 5/8" GYP BOARD, STONE VENEER.

EWS 06 NEW BRICK VENEER WITH AIR AND WATER BARRIER, 2-IN RIGID INSULATION ON EXISTING CMU WALL. PRECAST CONCRETE WALL SYSTEM: WHITE PORTLAND CEMENT WITH

EWS 08 VERTICALLY ORIENTED 1x8 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP SYSTEM ATTACHED TO EDGE OF SLAB AS NECESSARY (B.O.D. - reSAWN TIMBER CO. SHOU SUGI BAN CHARRED CEDAR).

EXTERIOR GLAZING SYSTEMS:

FORMLINER.

EGS 01 THERMALLY-BROKEN, INSULATED STOREFRONT SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 451T-VG W KYNAR FINISH

EGS 02 THERMALLY-BROKEN, INSULATED 2-SIDED SSG CURTAINWALL SYSTEM WITH LOW-E GLASS, B.O.D. KAWNEER 1600 W KYNAR FINISH

EGS 03 THERMALLY-BROKEN, INSULATED INTERNALLY REINFORCED SSG CURTAINWALL SYSTEM WITH LOW-E GLASS, B.O.D. KAWNEER 1620 SSG W KYNAR FINISH EGS 04 THERMALLY-BROKEN, INSULATED WOOD WINDOW SYSTEM WITH LOW-E GLASS: B.O.D MILGUARD ESSENCE SERIES

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EGS 05 THERMALLY BROKEN, INSULATED WOOD SLIDING DOOR SYSTEM WITH LOW-E GLASS: B.O.D. MILGUARD GLASS WALL SYSTEM

EGS 06 THERMALLY-BROKEN, INSULATED EXTRUDED ALUMINUM DOOR WITH LOW-E GLASS: B.O.D MILGUARD STANDARD ALUMINUM SERIES W KYNAR FINISH

EGS 07 THERMALLY-BROKEN, INSULATED EXTRUDED ALUMINUM FOLDING WALL SYSTEM WITH LOW-E GLASS: B.O.D SOLAR INNOVATIONS G3 SERIES W SI BRONZE FINISH

WINDOWS/GLASS:

 WHERE ALUMINUM STOREFRONT, CURTAINWALL OR WINDOWS ARE INDICATED WITHIN THE EXTERIOR ENVELOPE THE SYSTEMS SHALL BE COMPRISED OF FLOOR TO CEILING WINDOW OPENINGS (UNLESS NOTED OTHERWISE). REFER TO EXTERIOR BUILDING ELEVATIONS FOR EXTENTS. SYSTEMS SHALL ACHIEVE THE FOLLOWING MINIMUMS:

 ASSEMBLY MAXIMUM U-FACTOR: 0.50 MAXIMUM. SOLAR HEAT GAIN COEFFICIENT: 0.40 MAXIMUM. ALL WINDOW SYSTEMS TO BE PAINTED WITH PPG "DURANAR" (KYNAR

BASED COATING). FINISH TO BE SELECTED FROM STANDARD THREE-COAT SYSTEM, GLAZING FOR VISION LIGHTS IN WINDOW SYSTEMS DESCRIBED ABOVE IS TO BE TYPICALLY 1" LOW-E INSULATING GLASS UNITS UTILIZING

CLEAR GLASS. VISIBLE LIGHT TRANSMITTANCE: 68 PERCENT MINIMUM. WINTER NIGHTTIME U-FACTOR: 0.30 MAXIMUM.

 SUMMER DAYTIME U-FACTOR: 0.27MAXIMUM. SOLAR HEAT GAIN COEFFICIENT: 0.40 MAXIMUM.

HORIZONTAL SURFACES:

 INCLUDE VAPOR BARRIER, PVC MEMBRANE, TAPERED RIGID INSULATION AT A MIN. 1/4" PER FOOT, R-VALUE AT A MIN OF R-30 OR AS REQUIRED TO MEET ENVELOPE ENERGY

EFFICIENCY STANDARDS AND LOCAL CODES. NO LESS THAN 2" OF INSULATION AT LOW POINTS AND AROUND ROOF DRAINS PROVIDE 1/2" COVER BOARD OVER METAL DECK OR AREAS WITH HIGH TRAFFIC.

 PROVIDE WALKWAY PROTECTION BETWEEN ROOF ACCESS AND MAINTENANCE AREAS AND AROUND MECHANICAL UNITS. PROVIDE STRUCTURALLY SUPPORTED ROOF ANCHORS AND CABLES FOR FALL

PROTECTION AND WINDOW WASHING MEETING OSHA REQUIREMENTS AND LOCAL CODES. (DAVIT AS REQUIRED) PROVIDE MECHANICAL SCREENING BY EXTENDING THE BUILDING FAÇADE ABOVE THE ROOF SLAB AS SHOWN ON DRAWINGS, INCLUDE 6" STEEL POST BACK UP STRUCTURE TO SUPPORT CANTILEVERED FACADE WITH INTERMEDIATE HORIZONTAL TIE-BACK,

PER STRUCTURAL DESIGN. ROOFTOP UNITS AND EQUIPMENT TO BE SET ON CURBS. PROVIDE ALL PENETRATIONS, ROOF CURBS AND DETAIL FLASHINGS REQUIRED FOR A COMPLETE PROJECT.

GREENROOF:

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 ABOVE MEMBRANE, PROVIDE ½" PROTECTIVE COVER BOARD, DRAINAGE LAYER/BOARD, ROOT BARRIER, GROWING MEDIA (4-6 INCHES), MULCH AND SEDUM PLANT MATERIAL.

BALCONIES: STEPPED SLAB, THERMALLY BROKEN FROM INTERIOR SLAB TO EXTERIOR BALCONY (B.O.D. - SCHOCK ISOKORB OR SIMILAR), WATERPROOFING, VAPOR BARRIER, PVC MEMBRANE, TAPERED RIGID INSULATION AT A MIN. 1/4" PER FOOT TO CONCEALED

ROOF DRAIN, PAVERS ON PEDESTALS, 42" A.F.F. GUARD RAIL STRUCTURALLY TIED TO

 PAVER B.O.D. - BISON PEDESTAL AND PAVER SYSTEM o THERMAL BREAK B.O.D. - SCHOCK ISOKORB

 ZINC PANEL SOFFIT SYSTEM WHERE SHOWN: ZINC PANEL, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 6" UNFACED BATT INSULATION, SHEET VAPOR BARRIER, 1/2" GYP BOARD. 3-COAT SMOOTH STUCCO SOFFIT SYSTEM WHERE SHOWN: ON METAL LATH, 2" RIGID INSULATION, FLUID APPLIED MEMBRANE AIR BARRIER & 5/8" EXTERIOR SHEATHING,

COLOR & FINISH BY ARCHITECT

INTERIOR NARRATIVE

RESIDENTIAL SUITES (APARTMENTS):



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ARCHITECTS

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DETROIT MI 48201

DETROIT, MICHIGAN 48201

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LANDSCAPE & CIVIL ENGINEER

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KING OF PRUSSIA, PA 19406

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4000 WEST ELEVEN MILE ROAD

OWNER

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215.948.2564

SUITE 200

SUITE 501

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MEP ENGINEER

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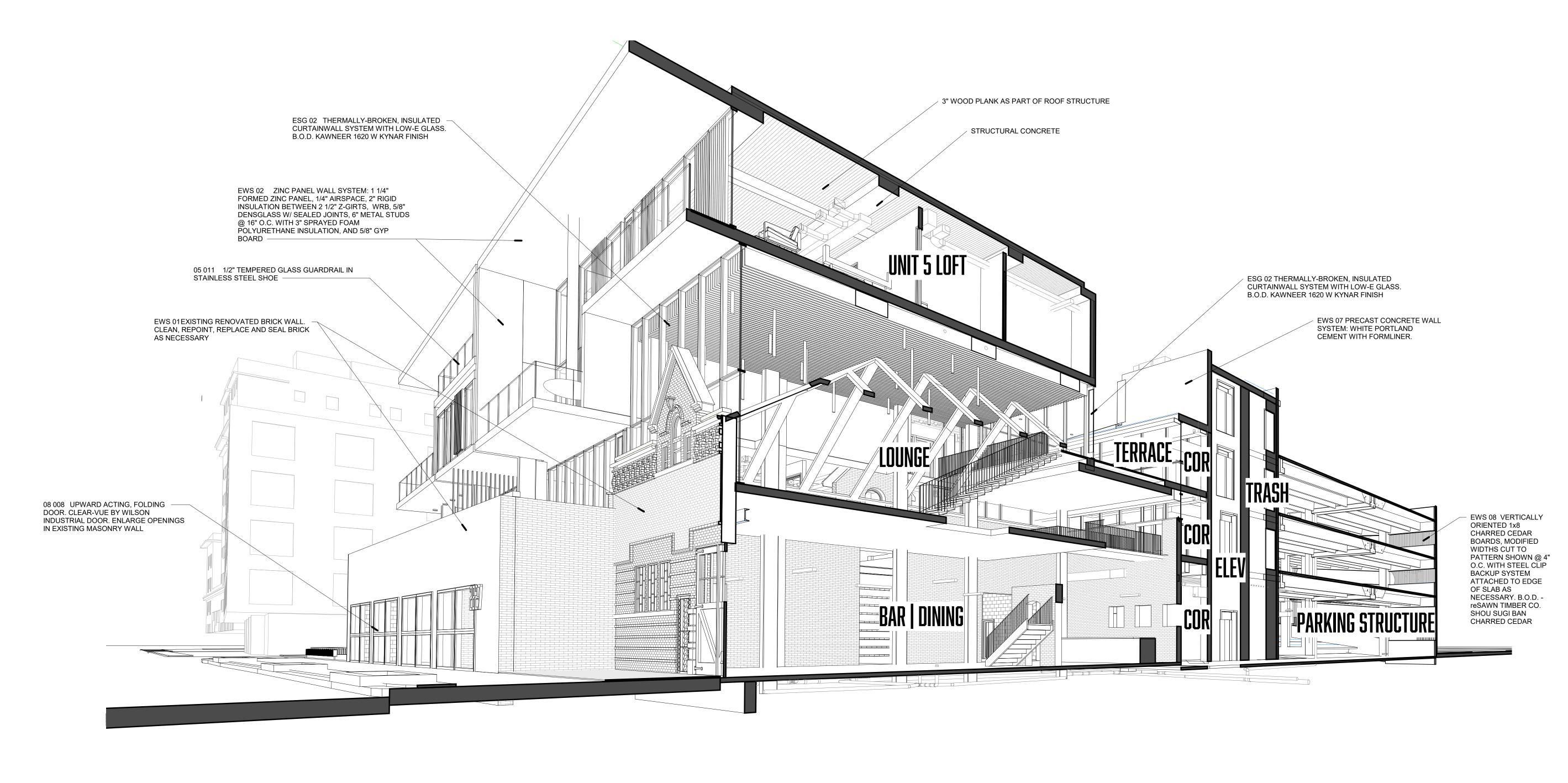
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DRAWING ISSUE	DATI
CONCEPTUAL DESIGN	11.16.20
SCHEMATIC DESIGN	01.18.20
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SCALE : AS INDICATED



LONGITUDINAL SECTIONAL
PERSPECTIVE

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FLOORS:

 BEDROOMS AND LIVING ROOMS - ¾" HARDWOOD FLOORING (B.O.D - 6" T&G WALNUT WITH TRANSPARENT BONA TRAFFIC COMMERCIAL HD MATTE FINISH) ★ KITCHENS + BATHROOMS - NATURAL STONE TILE, WATERPROOFING AND CRACK RESISTANT MEMBRANE THROUGHOUT - INCLUDE ALL SPECIAL TRIMS, BULLNOSE, INSIDE/OUTSIDE CORNERS, INTEGRATED COVE BASE, EXPANSION JOINTS EVERY 20' OR AS SHOWN ON PLANS, SEALANT LOCATED PER TONA HANDBOOK AND AS SHOWN ON PLANS, BATHROOMS INCLUDE FULL HEIGHT WALLS.

 ACOUSTIC UNDERLAYMENT AS REQUIRED TO MEET STC (MINIMUM STC 50 AND IIC 50 IN FLOORS BETWEEN UNITS)

 UNIT DEMISING WALLS AND CORRIDOR WALLS MINIMUM STC54 (ACHIEVE WITH ASYMMETRICAL RC-1 CHANNEL AS OUTLINED IN STC TEST NUMBER RAL-TL-83-216)

- RECESS UNIT ENTRIES (5' WIDE x 2' DEEP) AND CLAD WALL WITH VERTICALLY ORIENTED HARDWOOD (B.O.D - 6" T&G WALNUT WITH TRANSPARENT BONA TRAFFIC COMMERCIAL HD MATTE FINISH)
- CARRY SPECIAL FINISH ON UNIT WALLS SHOWN ON PLANS WALLS TO BE VARYING SIZES OF LARGE FORMAT STONE WITH 1/4" STEEL JOINTS WHERE INDICATED BASE: 6" STRAIGHT HARDWOOD WOOD BASE SET FLUSH WITH DRYWALL TO MATCH. FLOORS WITH 1/2" FRY REGLET REVEAL BETWEEN WALL BASE AND DRYWALL (B.O.D. -WALNUT WITH WHERE NOT TILED FLOORS (TILE BASE ON TILE FLOORS)

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INCLUDE ALL SPECIAL TRIMS, BULLNOSE, INSIDE/OUTSIDE CORNERS, INTEGRATED COVE BASE, EXPANSION JOINTS EVERY 20' OR AS SHOWN ON PLANS, SEALANT

LEVEL 5 FINISH ON PARTITIONS IN PUBLIC SPACES

- FULL HEIGHT STOREFRONT GLASS DEMISING WALLS AND DOORS BETWEEN CORRIDOR AND CLUB ROOM PAINTED 1/COAT PRIMER/2 COAT FINISH ON GWB (COLOR BY ARCHITECT)
- BASE: 4" STRAIGHT WOOD BASE WITH EASED EDGE PROFILE WHERE NOT TILED FLOORS (TILE BASE ON TILE FLOORS)
- FULL HEIGHT STAINLESS STEEL CORNER GUARDS AT HIGH TRAFFIC AREAS ON STUD
- STC 50 (ACHIEVE WITH ASYMMETRICAL RC-1 CHANNEL AS OUTLINED IN STC TEST.) NUMBER RAL-TL-87-156)

CEILINGS:

 PAINTED GWB PAINTED 1/COAT PRIMER/2 COAT FINISH ON GWB

 FRAMELESS ACCESS DOORS SPACKLED INTO GWB CEILINGS - COORDINATE LOCATIONS AND ALIGNMENTS WITH ARCHITECT

 3' X 8' ENTRY DOOR (UNLESS NOTED OTHERWISE) - RATED, SOLID CORE WOOD DOORS WITH TRANSPARENT FINISH BAMBOO VENEER, SPRING HINGES MEETING CODE CLOSING REQUIREMENTS. MORTISE LOCKSET. (HARDWARE SHOWN FOR PRICING, CONFIRM REQUIREMENTS WITH OWNER) 3' X 8' (UNLESS NOTED OTHERWISE) NARROW STILE ALUMINUM FRAME GLASS DOOR

AT INTERIOR STOREFRONT

PUBLIC BATHROOMS:

 NATURAL STONE COUNTER TOP, BACK AND SIDE SPLASHES, UNDERMOUNT SINK(S), MOUNTED SOAP DISPENSERS IN COUNTER, IN FLOATING WALNUT VENEERED VANITY (PROVIDE BLOCKING IN WALL AND STEEL SUPPORT BRACKETS AT 3' O.C., B.O.D. -CENERLINE BRACKETS 888)

- FRAMELESS MIRROR ABOVE SINK WITH CONTINUOUS AND CONCEALED LED LIGHTING AROUND PERIMETER
- FULL LENGTH LED COVE LIGHTING IN CEILING OVER SINK AREA AND TOILETS TOTO PLUMBING FIXTURES AND FAUCETS WITH AUTO FLUSH AND WATER SENSORS
- BOBRICK ACCESSORIES (RECESSED PAPER TOWEL DISPENSER AND INTEGRATED TRASH RECEPTACLE, RECESSED TOILET PAPER DISPENSERS (SURFACE MOUNT ON W.C. PARTITIONS), SEAT COVER DISPENSERS, SANITARY NAPKIN DISPENSERS, GRAB BARS WITH BLOCKING AS REQ'D BY CODE)
- TOILET PARTITIONS TO BE CEILING-HUNG, GAP-FREE INTERLOCKING DESIGN, COMPACT LAMINATE COMPARTMENTS (B.O.D. - BOBRICK DURALINE SERIES)
- LARGE FORMAT NATURAL STONE TILE AND WALL BASE AT PUBLIC TOILET ROOMS -WATERPROOF'G IN WET AREAS AND CRACK RESISTANT MEMBRANE THROUGHOUT, INCLUDE ALL SPECIAL TRIMS, BULLNOSE, INSIDE/OUTSIDE CORNERS, INTEGRATED

COVE BASE, EXPANSION JOINTS EVERY 20° OR AS SHOWN ON PLANS, SEALANT OOMBRA ARCHITECTS, LLC: PHILADELPHIA, PA: (215) 948:2564: OOMBRA.COM

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 BATHROOM WAINSCOT - FULL HEIGHT NATURAL STONE TILE - INCLUDE ALL SPECIAL TRIMS, BULLNOSE, INSIDE/OUTSIDE CORNERS (WHERE NECESSARY), INTEGRATED

- COVE BASE, SEALANT LOCATED PER TONA HANDBOOK 1 COAT PRIMER / 2 COAT FINISH (BASE WHITE AND ACCENT WALL COLORS) • 3/4" HARDWOOD WINDOW SURROUND (SILL/HEAD/JAMBS), ALTERNATE FOR NATURAL STONE SILL.
- DRYWALL "ZIP STRIP" AT ANY INTERSECTION OF EXPOSED CONCRETE TO DRYWALL. RATED AND ACOUSTICAL SEALANT AS REQUIRED (RE: PARTITION SCHEDULE)

PAINTED GWB AT KITCHEN AND BATHROOMS 8' MINIMUM

- PAINTED GWB IN LIVING ROOMS AND BEDROOMS 9' MINIMUM DRYWALL "ZIP STRIP" AT INTERSECTION WITH ANY EXPOSED CONCRETE. RATED AND ACOUSTICAL SEALANT AS REQUIRED IN PARTITION SCHEDULE 7 GAUGE ALUMINUM ANGLE TRIM AT UNDERSIDE OF E.O.S. TO CONCEAL ANY AREAS
- WITH EXTERIOR WALL TO EXPOSED BOTTOM SLAB CONDITION (B.O.D. 4" VERTICAL LEG AND HORIZONTAL LEG TO COVER IMPERFECT CONCRETE EDGE AND FIRESAFING ACTUAL LENGTH AND PROFILE DETERMINED BY ARCHITECT BASED ON SLAB
- FRAMELESS ACCESS DOORS SPACKLED INTO GWB CEILINGS COORDINATE LOCATIONS AND ALIGNMENTS WITH ARCHITECT PRIOR TO PLACEMENT AND INSTALLATION



January 18, 2018

CONCIERGE DESK:

UTILITY AREAS:

FLOORS:

CEILING:

OTHER:

SOLAR CONTROL:

OFFICE/STORAGE, AND STAIRS)

SEALED CONCRETE

 SEALED CONCRETE PAINTED GWB

ELECTROSHADE).

SIGNAGE AND WAYFINDING:

WHERE REQUIRED)

PARKING GARAGE

(B.O.D. - MECHOSHADE ELECTROSHADE).

STAIR LANDINGS AND IN CORRIDORS

EPOXY FLOOR – PUMP ROOMS

1 COAT PRIMER / 2 COAT FINISH

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 3' X 8' ENTRY DOOR (UNLESS NOTED OTHERWISE) - RATED, SOLID CORE WOOD DOORS WITH TRANSPARENT FINISH BIRCH VENEER (OR SIMILAR), SPRING HINGES MEETING CODE CLOSING REQUIREMENTS. MORTISE LOCKSET. KEYED ENTRY

LOCATED PER TONA HANDBOOK AND AS SHOWN ON DRAWINGS

CLEAR MAPLE WITH CLEAR POLYURETHANE FINISH

BLOCKING (B.O.D. - CENTERLINE BRACKETS)

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STAINLESS STEEL THRESHOLDS AT MATERIAL TRANSITIONS (B.O.D. – SCHLUTER, RE:

• NATURAL STONE COUNTER TOP WITH (3) INTEGRATED CORD DROP SLOTS, 1/4" X 6"

WALNUT WOOD VENEER FACED PANELS, INTEGRATED SHELVING AND LOCKABLE

FLOATING COUNTERTOP SUPPORT BRACKETS AT 3'-0" O.C., ANCHORED TO WOOD

(ELECTRICAL, MAIN WATER, TELECOM, ELEVATOR MACHINE ROOMS, MAINTENANCE

MOISTURE RESISTANT GWB IN ALL WET AREAS (TYPICAL THROUGHOUT)

UNITS: MOTORIZED, CONCEALED ROLLER SHADE (B.O.D. - MECHOSHADE

• LOBBIES, CONCIERGE/DINING, LOUNGES: MOTORIZED, CONCEALED ROLLER SHADE

LASER CUT BRONZE PLATE SIGNAGE INDICATING FLOOR LEVELS AT ALL LOBBIES,

CODE REQUIRED SIGNAGE (INCLUDE MAX. OCC SIGNS AT LOUNGES/ASSEMBLY,

RESIDENTIAL – MODULAR, WITH BRAILLE, TYPICAL AT ALL SUITE ENTRY DOORS

INCLUDE WAYFINDING, PARKING GRAPHIC, FLOOR IDENTIFICATION SIGNAGE IN

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EGRESS AND EVAC SIGNAGE AT ELEVATORS AND STAIRS, AREA OF REFUGE SIGNAGE

CABINETS W/ FLUSH FRAMELESS FLAT PANEL DOORS. INTERIOR CABINETS TO BE

TALL BLACKENED STEEL BASE, CONTINUOUS AND CONCEALED LED RIBBON LIGHTING

AROUND PERIMETER AND A MOTORIZED OVERHEAD COILING GRILLE FOR SECURITY

COMBRA ARCHITECTS LLC. PHILADELPHIA, PA ; (21b) 948,2564; COMBRA COM

2827 John F. | Pricing Naviation

January 18, 2018.

(HARDWARE SHOWN FOR PRICING, CONFIRM REQUIREMENTS WITH OWNER) 3' X FULL HEIGHT (U.N.O.) INTERIOR DOORS - SOLID CORE WOOD SLAB DOOR WITH TRANSPARENT FINISH, SPRING HINGES MEETING CODE CLOSING REQUIREMENTS AND EZY JAMB FRAMES SPACKLED INTO DRYWALL.



(IMAGE SHOWN FOR REFERENCE ON Y)

LIGHTING: (2) LED ARCHITECTURAL WALL MOUNTED LIGHT FIXTURE PER ROOM, INCLUDING

BEDROOMS, BATHROOMS, DRESSING AREA: (1) SCONCE PER VANITY LOW PROFILE LED RECESSED DOWNLIGHTS IN GWB CEILINGS LED UNDERCABINET LIGHTING

BATHROOM AND VANITY:

- NATURAL STONE CARRARA (MARBLE) COUNTER TOP OR SIMILAR, FULL STONE TILE BACKSPLASH, WITH UNDERMOUNT STAINLESS STEEL SINK(S) FLOATING VANITY TO BE WALNUT WOOD VENEER W/ FLUSH FRAMELESS FLAT PANEL
- DOORS, INTERIOR CABINET TO BE CLEAR MAPLE WITH CLEAR POLYURETHANE FINISH FRAMELESS MIRROR ABOVE SINK
- (1) MEDICINE CABINET PER SINK WALL MOUNTED WATER CLOSET (B.O.D. - KOHLER, TOTO)
- PLUMBING FIXTURES AND FAUCETS (MATTE BLACK, BRONZE, STAINLESS OR SIMILAR FINISH AS CHOSEN BY ARCHITECT, B.O.D. - TOTO, GROHE, KOHLER)
- 24" TOWEL BAR, TOILET PAPER DISPENSER, (3) TOWEL HOOKS AND GRAB BARS AS REQ'D BY CODE (MATTE BLACK, BRONZE, STAINLESS OR SIMILAR FINISH CHOSEN BY
- FULL HEIGHT NATURAL STONE TILE WALK-IN SHOWER SURROUNDS, WATERPROOFING AND CRACK RESISTANT MEMBRANES WITH FRAMELESS GLASS PARTITION AND DOOR

FREESTANDING SOAKING TUB (B.O.D. - WHITE STONE RESIN COMPOSITE IN MATTE





FIRE EXTINGUISHERS: STAINLESS STEEL WITH BLACK LETTERING, FULLY RECESSED AND AS REQUIRED PER

January 18, 2018

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LOCAL GOVERNING AUTHORITIES THROUGHOUT BUILDING, INCLUDE ONE PER

EXIT SIGNAGE: EDGE-LIT

PARKING, MECHANICAL AND SERVICES SCREENING: PROVIDE VERTICALLY ORIENTED 1x8 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP SYSTEM ATTACHED TO

- EDGE OF SLAB AS NECESSARY PROVIDE EXPANDED METAL MESH SCREEN WITH VERTICAL GREEN GROWING MEDIA ALONG PERIMETER OF PARKING GARAGE WHERE SHOWN - ATTACH TO STEEL BACKUP
- STRUCTURE, SUPPORTED BY CONCRETE SLABS AND WALLS OF GARAGE PROVIDE VISUAL SCREENING OF TRASH AND LOADING AREA WHERE SHOWN, INCLUDE EXPANDED METAL MESH PANELS ON 4"X4" STRUCTURAL STEEL POSTS VERTICAL AND HORIZONTAL, AS REQUIRED BY STRUCTURAL ENGINEER



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 NATURAL STONE CARRARA (MARBLE) OR SIMILAR, FULL HEIGHT BACKSPLASH, WITH UNDERMOUNT STAINLESS STEEL SINK (B.O.D.

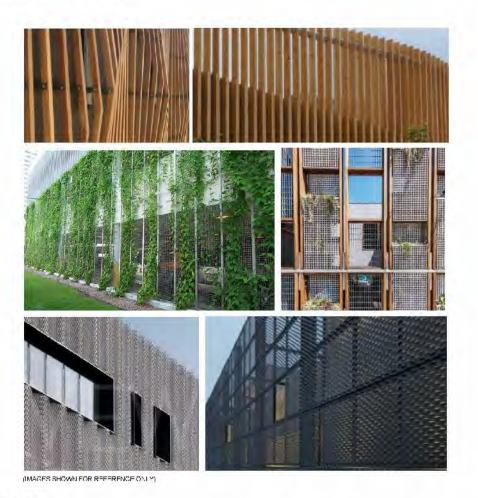
- WALNUT WOOD VENEER CABINETS W/ FLUSH FRAMELESS FLAT PANEL DOORS. PROVIDE (1) ADJUSTABLE SHELF PER LOWER CABINET. (2) PER UPPER. INTERIOR CABINETS TO BE CLEAR MAPLE WITH CLEAR POLYURETHANE FINISH AND CONT. STEEL PULL HARDWARE
- 1 HP GARBAGE DISPOSAL (GE, STAINLESS, BOD)
- 24" STEEL BASIN, DISHWASHER PANEL READY, BUILT-IN (B.O.D. BOSCH, MIELE, SUB ZERO, WOLF, MONOGRAM) 42" WIDE, COUNTER DEPTH, PANEL READY, BUILT-IN REFRIGERATOR WITH
- CONCEALED FRONT FLUSH WITH CABINETS (B.O.D. BOSCH, MIELE, SUB ZERO, WOLF,
- 30" UNDERCOUNTER DRAWER BEVERAGE REFRIGERATOR, PANEL READY (B.O.D. -BOSCH, MIELE, SUB ZERO, WOLF, MONOGRAM)
- 36" INDUCTION COOKTOP (B.O.D. BOSCH, MIELE, SUB ZERO, WOLF, MONOGRAM)
- 36" INDUCTION WALL OVENS (2 PER KITCHEN B.O.D. BOSCH, MIELE, SUB ZERO, WOLF, MONOGRAM)

• 30" PANEL READY DRAWER MICROWAVE (B.O.D. - BOSCH, MIELE, SUB ZERO, WOLF, MONOGRAM)

 1 FIREPLACE PER RESIDENTIAL UNIT AND ONE FIREPLACE IN CARRIAGE HOUSE (B.O.D. - GYROFOCUS SUSPENDED AND PIVOTING HEARTH BLACK ANTI-CORROSION PAINT

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RAILINGS:

 WHERE STEEL: PROVIDE ½" X 1 5/8" BLACKENED STEEL BAR STOCK VERTICAL PICKETS/POSTS WITH 1 5/8" x 1" MATCHING HORIZONTAL BLACKENED STEEL BAR STOCK HORIZONTAL RAIL, WITH 1/4" X 3" X 6" MATCHING STEEL ESCUTCHEON PLATES

TO CONCEAL POST PENETRATIONS. WHERE GLASS: PROVIDE 1" TEMPERED LAMINATED GLASS GUARDRAIL, DUPONT SENTRY GLASS IONOPLAST INTERLAYER OR APPROVED EQUAL W/ CONT. ALUM. CAP & CONT. STAINLESS STL. SHOE SECURED TO ADJACENT STRUCTURE.

ELEVATORS:

 FLOOR FINISH TO MATCH GROUND FLOOR LOBBY FLOOR FINISH (ALIGN JOINTS) BRUSHED BRONZE DOORS (INSIDE AND OUTSIDE), INTERIOR CAB WALLS TO BE FELT. LEATHER, OR SIMILAR FINISH AS CHOSEN BY ARCHITECT, WITH A DROPPED BRONZE METAL CEILING AND (6) LED RECESSED LIGHTS, BRONZE SIDE AND REAR HANDRAILS ON SQUARE STANDOFFS

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> INCLUDING: HANGING PLATE, HARDWARE, INTERIOR FLUE FOR V.I.F. CEILING HEIGHT. COMPLETE OUTSIDE CHIMNEY SYSTEM, 4' CHIMNEY, RAIN CAP, STORM COLAR, FLASHING, PER MANUF, RECOMMENDATIONS.

COMMON AREAS:

(INCLUDES PUBLIC LOBBIES / ELEVATOR LOBBIES / CORRIDORS / PUBLIC BATHROOMS /



 HIGH TRAFFIC COMMERCIAL GRADE CARPET, NATURAL STONE TILE OR RECLAIMED WOOD WHERE SHOWN ON PLANS

 RECESSED FLOOR STAINLESS STEEL WALK-OFF GRATING AT BUILDING ENTRIES – (B.O.D. - 1 1/8" KADEE -KD98 OR APPROVED EQUAL)

 LARGE FORMAT NATURAL STONE TILE AND WALL BASE AT PUBLIC TOILET ROOMS -WATERPROOF'G IN WET AREAS AND CRACK RESISTANT MEMBRANE THROUGHOUT, OOMBRA ARCHITECTS, LLC; PHILADELPHIA, PA; (215) 948.2564; OOMBRA.COM

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET **DETROIT, MICHIGAN 48201**

2827 JOHN R STREET

DETROIT MI 48201

ARCHITECT

313.578.1200

OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

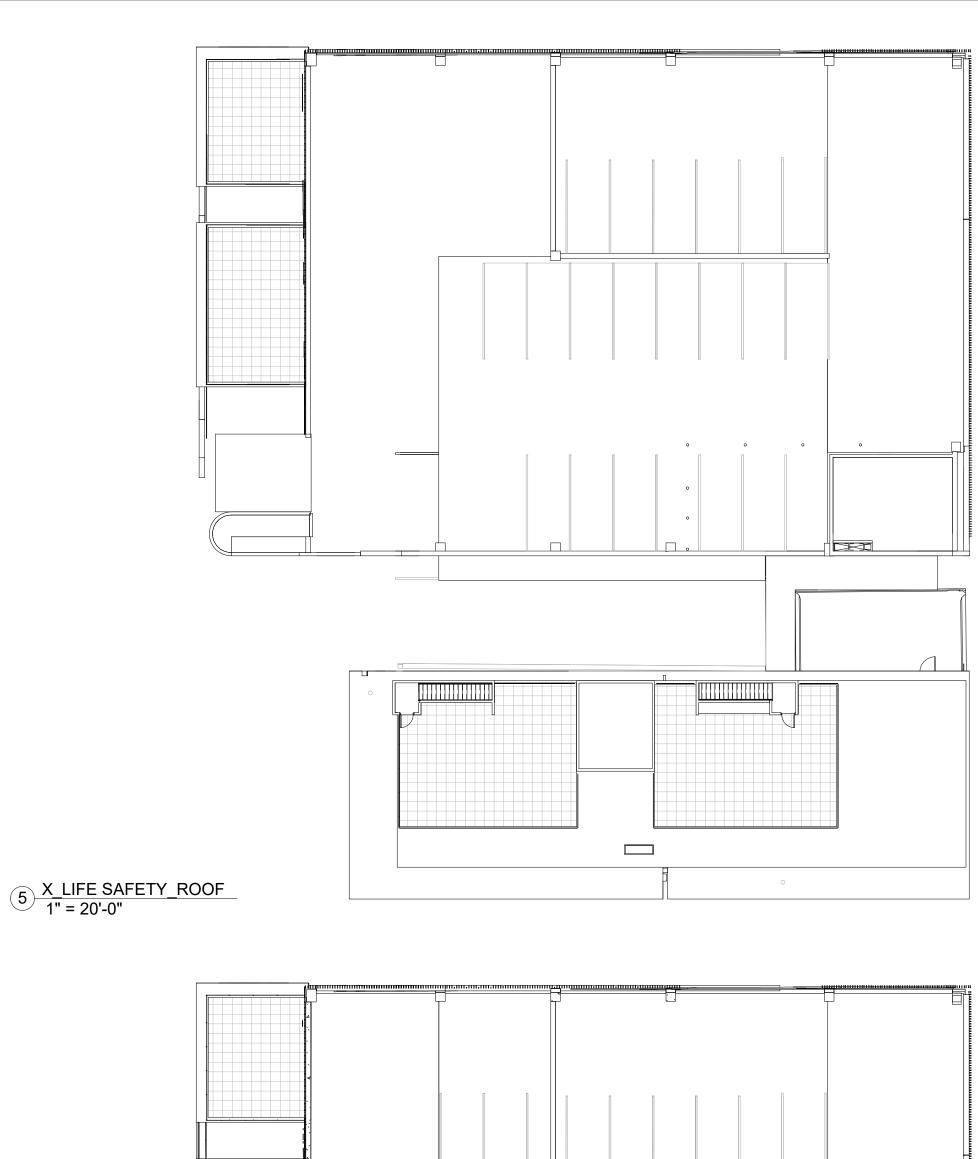
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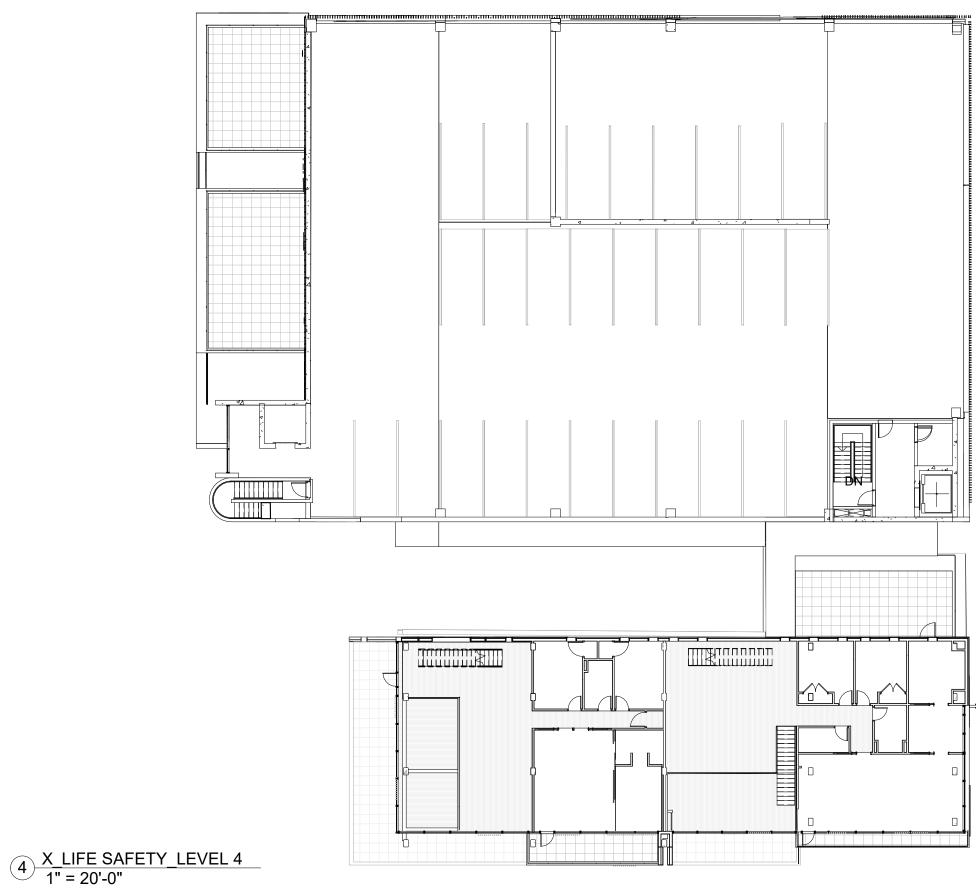
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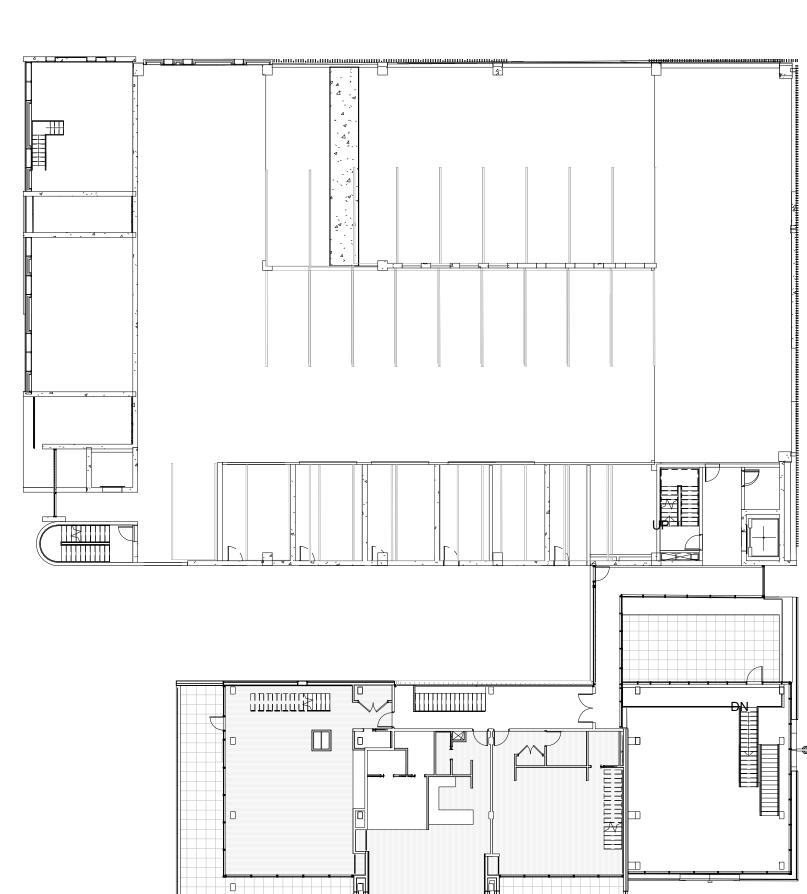
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DRAWING ISSUE	DATE
CONCEPTUAL DESIGN	11.16.201
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

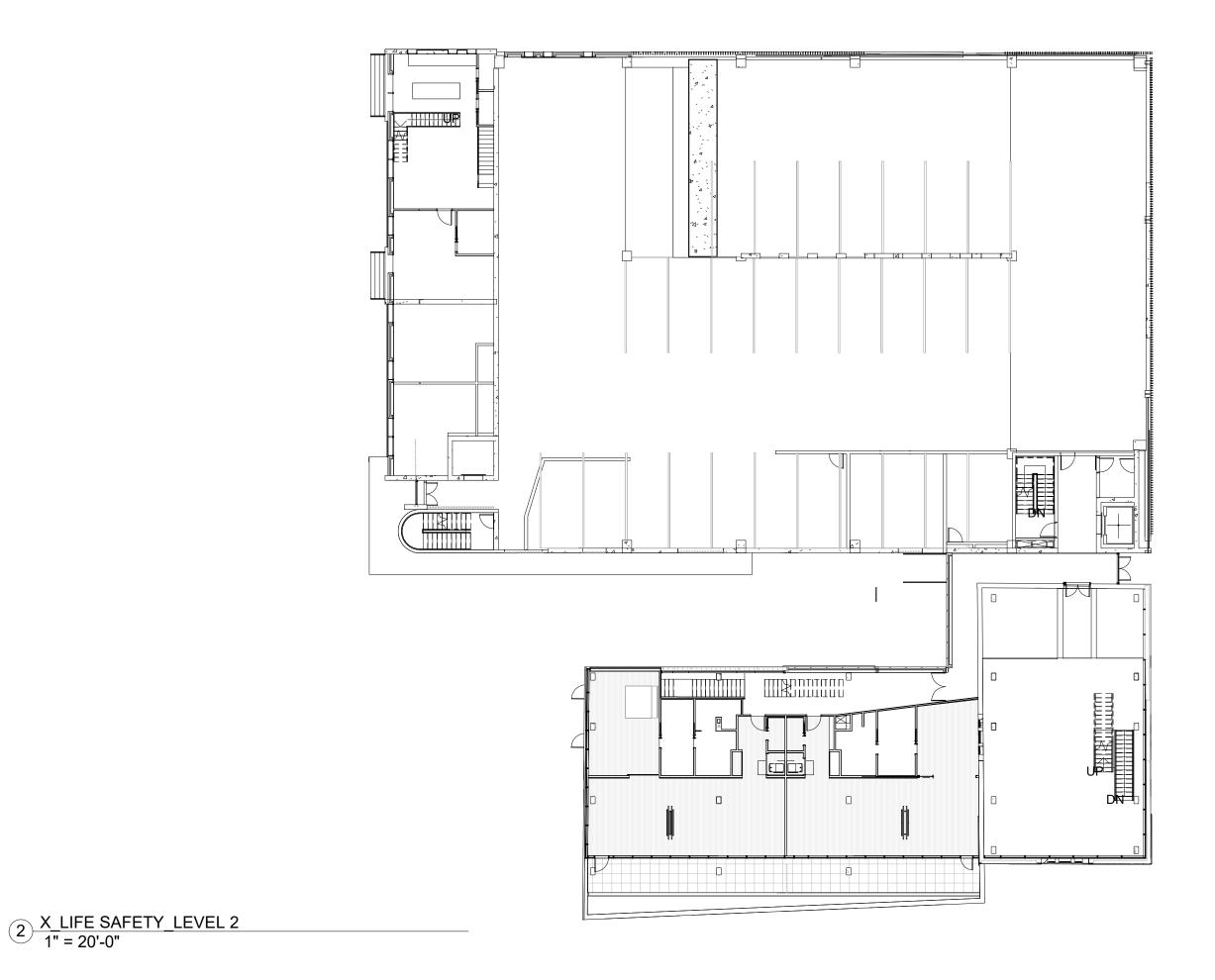
INTERIOR NARRATIVE

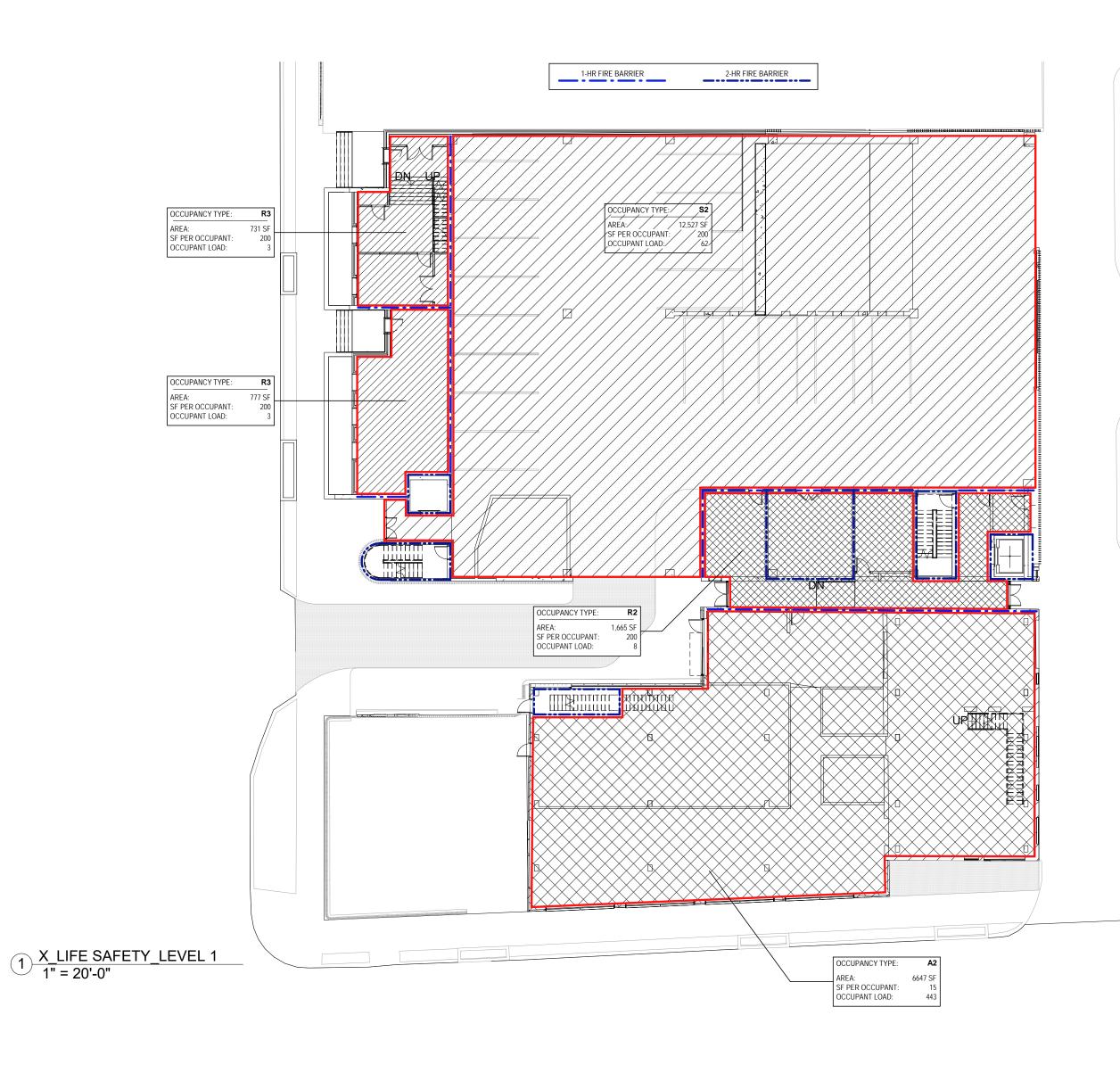






3 X_LIFE SAFETY_LEVEL 3 1" = 20'-0"





CODE REVIEW SUMMARY

PROJECT LOCATION: 2827 John R Street Detroit, MI 48201

BUILDING HEIGHT:

+/- 48'-0"

GFA - HEAD HOUSE Level Area

GFA - Parking Garage Name Level 14,371 SF

PG - L3

PG - L4

Level 1

Level 4

Headhouse

Roof H.P.

14,350 SF

14,418 SF

14,418 SF

11,720 SF

69,277 SF

Restaurant Level 1 5,050 SF Level 2 Lounge Res - L3 3,809 SF Level 3 4,007 SF Level 4 20,212 SF GFA - DUPLEX

Level Area

1,530 SF TH - L1 Level 1 TH - L2 1,791 SF Level 2 Level 3 1,247 SF 4,568 SF

PRELIMINARY CODE AND ADMINISTRATIVE ANALYSIS BRUSH PARK PARTNERS, LLC

1003 | 2827 JOHN R MIXED-USE

APPLICABLE CODES 2015 Michigan Building Code 2015 Michigan Rehabilitation Code for Existing Buildings 2015 Michigan Residential Code 2012 International Building Code (Chapter 11)

2015 International Building Code (Appendix E) 2015 Michigan Energy Code 2015 Michigan Mechanical Code 2015 Michigan Plumbing Code 2015 Michigan Electrical Code

2009 ICC Ansi 117.1 The Americans with Disabilities Act

24,000 GSF Level Two 23,000 GSF 23,000 GSF 94,900 GSF Level Three

> Docupant Count: Assembly with fixed seats, Assembly w/o fixed seats 7sf net, Mercantile 60sf gross, Residential 200sf gross and Parking Garages 200sf gross

CODE CLASSIFICATIONS Construction Type: IIB (Non-Combustible) or IV HT (Heavy Timber)

Use Group: A-2, M, R-2 and S-2

Allowable Building Heights, Number of Stories and Areas Above Grade Plane (Table 504.3, 504,4 AND 505)									
OCC CLASS	PROPOSED	NS	\$13R	81	SM	CONSTRUCTIO			
-	HT'/STDRY/KSF	HT'/STORY/KSF	HT/STORY/KSF	HT/STORY/KSF	KSF	-			
A-2	36/2/7.7	55/2/9.5	N/A	75/3/38	28.5	IIB			
A-2	36/2/7.7	65/3/15	N/A	85/4/38	28.5	IV HT			
M	15/1/2	55/2/12.5	N/A	75/3/50	37,5	IIB			
R-2	48/4/5.5	NOT ALLOWED	60/4/16	75/5/64	48	IIB			
R-2	48/4/5.5	NOT ALLOWED	65/4/20.5	85/5/64	61.5	TH VI			
S-2	48/4/17.2	55/3/26	N/A	75/5/64	117	IIB			

NS: No Sprinkler System, \$1: max. 1 story above grade w/ sprinkler system per Section 903.3.1.1, \$M: 2 or more stories above grade plane w/ sprinkler system per Section 903.3.1.1 and \$13R; sprinkler system per Section 903.3.1.2

AJ RELLY, RA . MICHAEL BRAHLER, RA

Fire Suppression: A fully functioning fire suppression system will be included as part of this project [check S-2

Frontage Increase: xx% + /- of perimeter of the building is accessible (xxx'-x") of perimeter of TBD

Required fire resistance ratings of structural elements: Structural Frame (IIB/HT)

Bearing Walls (IIB/HT) 0/2 hours (but, not less than rating based upon fire separation distance Table 602 and fire rating based Section 704.10) Non Bearing Walls (IIB/HT) 0/0 hours (but, not less than rating based upon exterior wall fire separation distance regts Table 602 and Table 705.8) Floors (IIB/HT) (but, R-2 requires min 1hr separation between units)

Roofs (IIB/HT) Exit and Stairs (1hr where connecting < 4 stories) (1hr where connecting < 4 stories)

Yes, a Separated, Mixed-use Building.

OCCUPANCY	A	, E	1:12	1-3, 1-4	1	-2.	1	Rº	F-2.	5-2 ^b , U		F-1, M S-1
	S	NS	5	NS	S	NS	S	NS	S	NS	S	NS
W _L E	ti	N	1	.2	2	NF.	1	2	(4	Ť	3	2
1-11 ² , 1-3 1-41	_	-	N	74	2	NP	4	NP	1	2	1	2
1-2	_)—3.	-	-	N	N	2	NE	2	NP	2	NE
R ²	_	_	-3	-		-	N	19	10	2¢	1	2

Ra = Section 420.2 requires separation walls (fire partitions) between dwelling units in accordance with Section 708.3 (1 hour and 0.5 hour in IIB, IIIB and VB Construction) and Section 420.3 requires horizontal separations (floor) between dwelling units in accordance with Section 711 (1 hour and 0.5 hour in IIB, IIIB and VB Construction). S-2^b = Pleasure vehicle reduction by 1 hour.

Minimum Exit Discharge Width: .15"x (TBD) occupants = xx" Allowable length of exit access travel = (TBD) feet....based on Use

Minimum Stair Width: .2" x (TBD) occupants = xx"

AFREILLY, RA + MIGHAEL BRAHLER, RA

705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS UNPROTECTED, SPRINKLERED

FIRE SEPARATION DISTANCE	ALLOWABLE AREA %
0 TO <3	NOT PERMITTED
3 TO <5	15
5 TO <10	25
10 TO <15	45
15 TO <20	75
25 TO <30	NO LIMIT

Buildings on the same lot, exception 2. Where an S-2 parking garage of construction type I or IIA is erected on the same lot as a Group R-2 building, and there is no fire separation distance between these buildings, then the adjoining exterior walls between the buildings are permitted to have occupant use openings in accordance with section 706.8. However, opening protectives in such openings shall only be required in the exterior wall of the S-2 parking garage, not in the exterior wall openings in the R-2 building, and these opening protectives in the exterior wall of the S-2 parking garage shall be not less than 1.5 hour fire protection rating.

2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

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DRAWING ISSUE	DATE
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

CODE & LIFE SAFETY

SCALE : AS INDICATED

4/21/2018 2:01:44 PM



KEYNOTES DESCRIPTION 02 003 CITY SIDEWALK 03 005 CONCRETE STAIR, RE: STRUCT. DRAWINGS 32 002 CONCRETE PLANTER WITH LINER, SOIL, AND VEGETATION 32 017 NATURAL STONE SLATE PATIO PAVER SYSTEM 32 018 CORTEN STEEL PLANTER BOXES WITH LINER, GROWING MEDIA, VEGETATION EWS 01 EXISTING RENOVATED BRICK WALL. CLEAN, REPOINT, REPLACE AND SEAL BRICK AS NECESSARY. 2x4 INTERIOR FURRING AT 24" 313.578.1200 O.C., 3" CLOSED-CEL SPRAY INSUL, 5/8" GYP, PAINTED. EWS 08 VERTICALLY ORIENTED 1x2 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN

SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP

NECESSARY, B.O.D. RESAWN TIMBER CO. SHOU

SYSTEM ATTACHED TO EDGE OF SLAB AS

ORIENTED CHARRED WOOD BOARDS (2X8)

SUGI BAN CHARRED CEDAR)

EWS 10 FREE-STANDING SCREEN WALL, VERTICALLY

WITH WELDED CORTEN STEEL FRAME

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ARCHITECT

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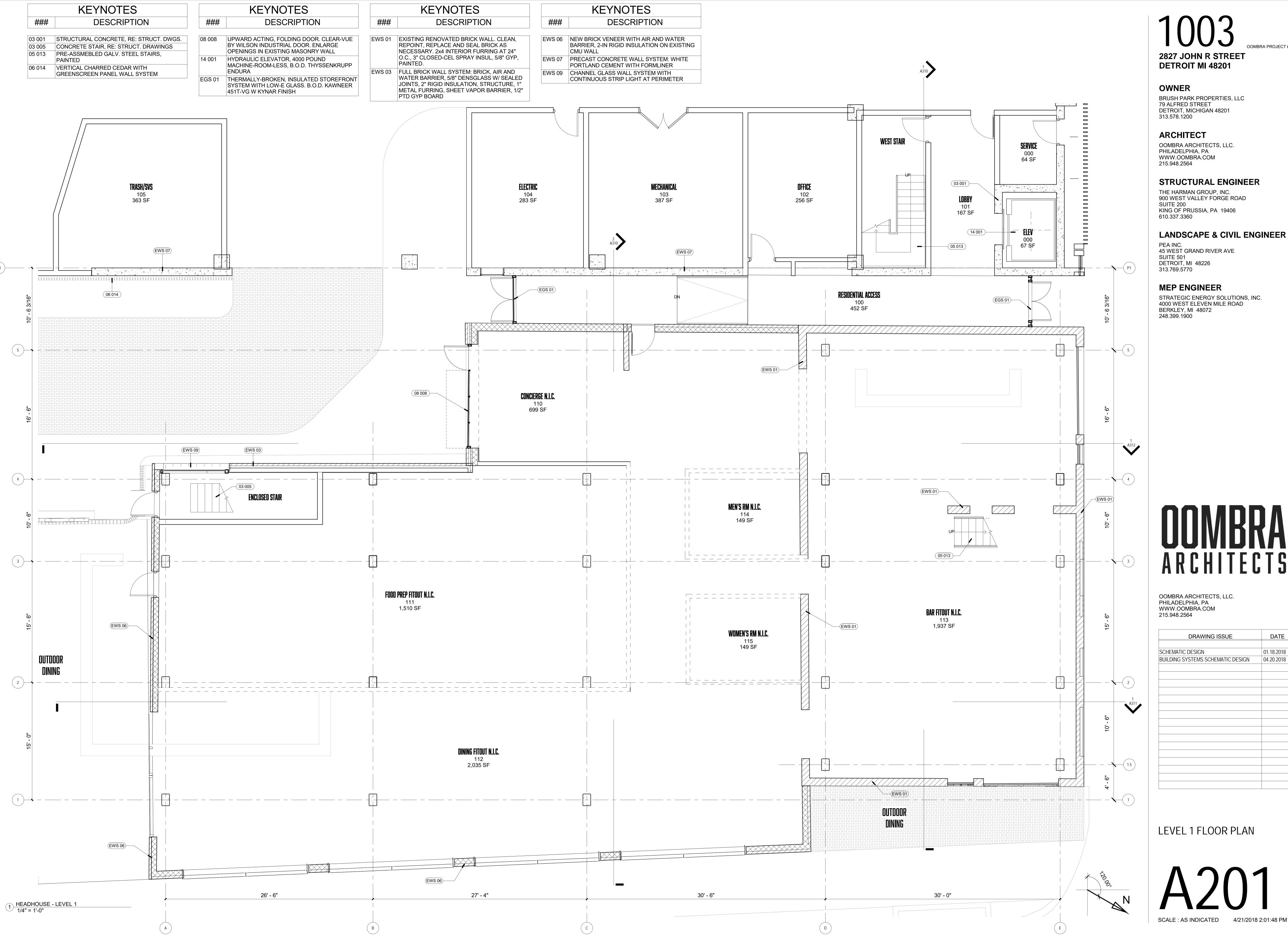
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ARCHITECTS

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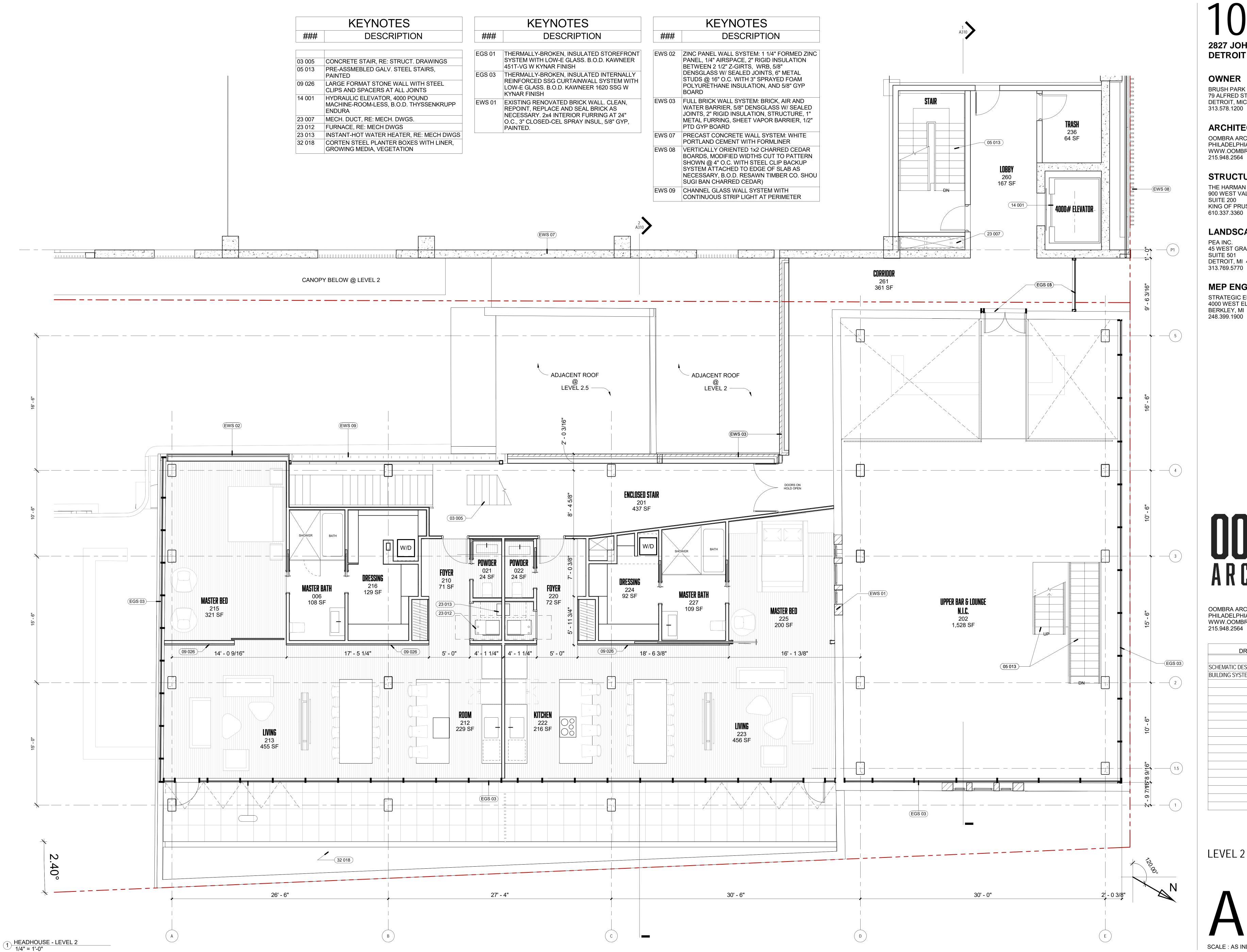
DRAWING ISSUE	DATE
CONCEPTUAL DESIGN	11.16.2017
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

OVERALL PLAN - LEVEL 1



STRATEGIC ENERGY SOLUTIONS, INC.

DRAWING ISSUE	DATE
CHEMATIC DESIGN	01.18.2018
JILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018



OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201

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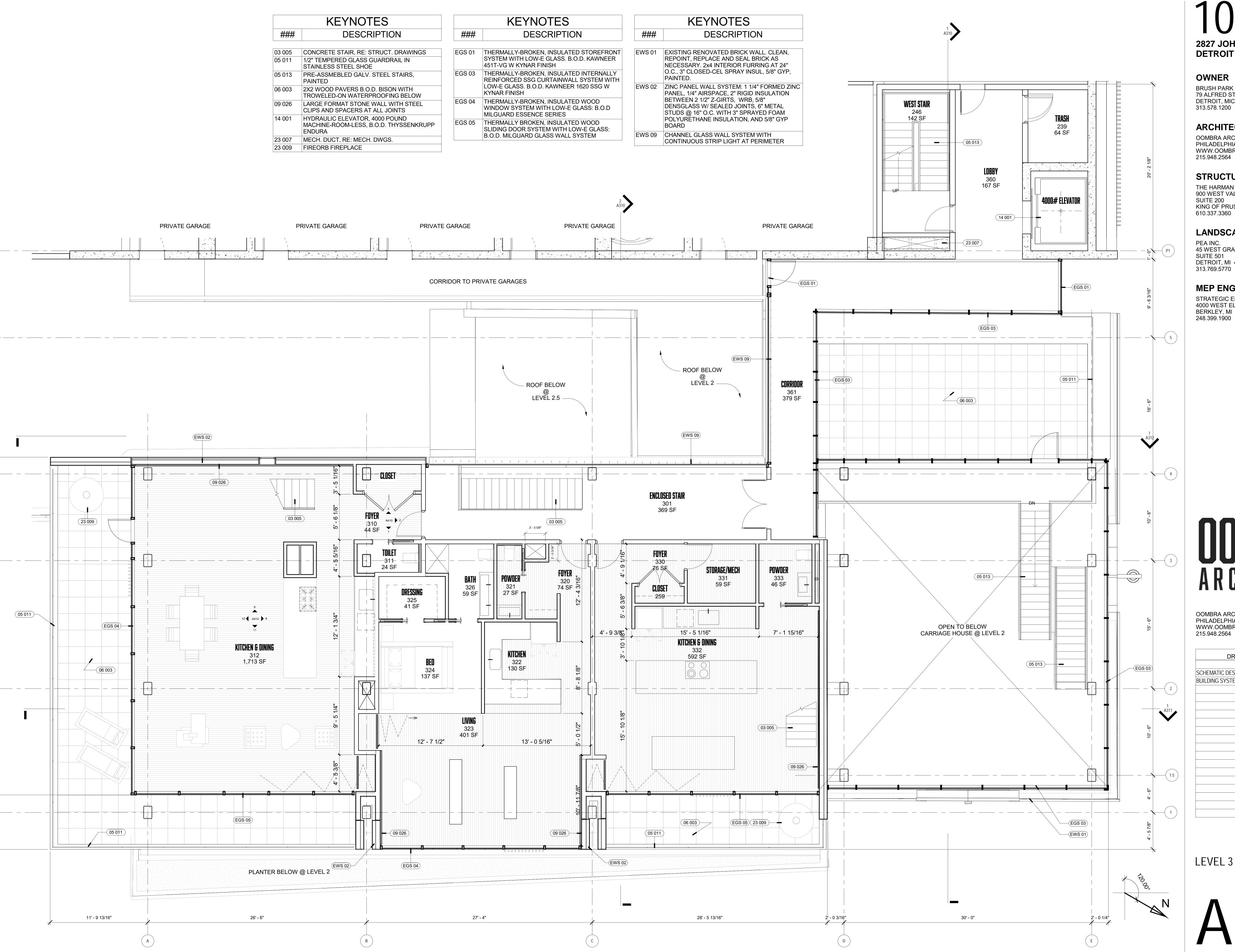
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DRAWING ISSUE	DATE
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LEVEL 2 FLOOR PLAN



OWNER

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406

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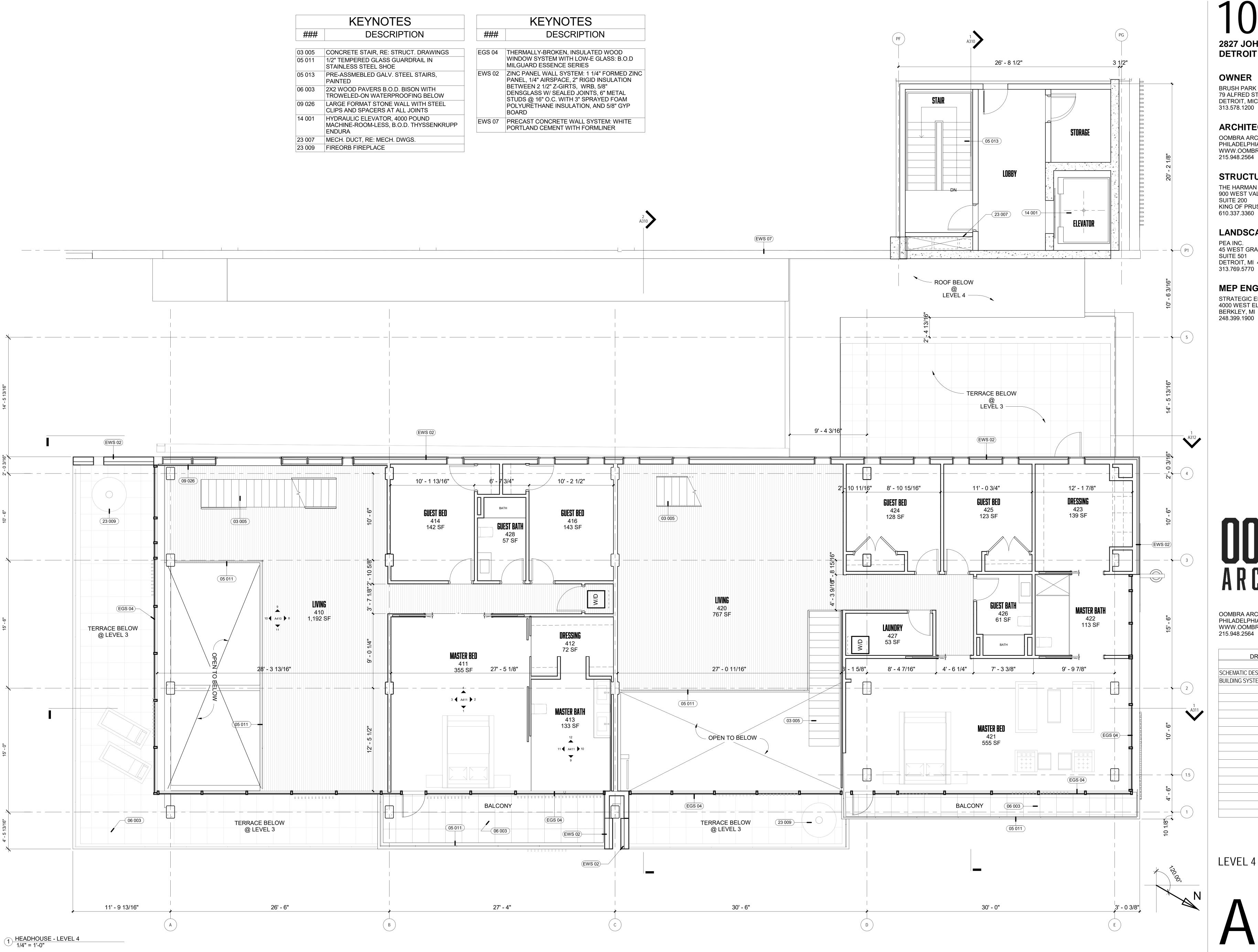
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DRAWING ISSUE	DATE
CHEMATIC DESIGN	01.18.2018
JILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

LEVEL 3 FLOOR PLAN



OWNER

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STRUCTURAL ENGINEER

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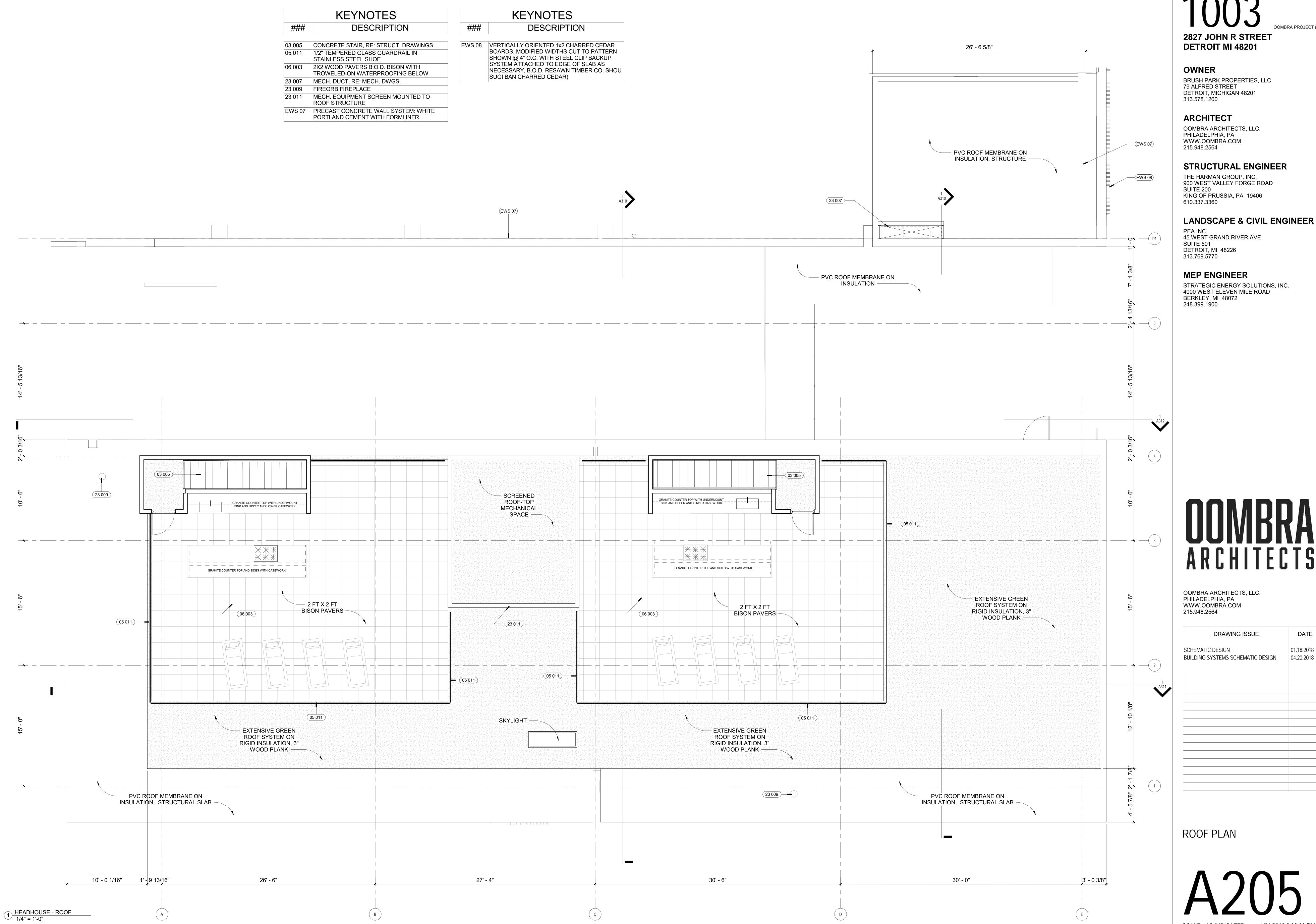
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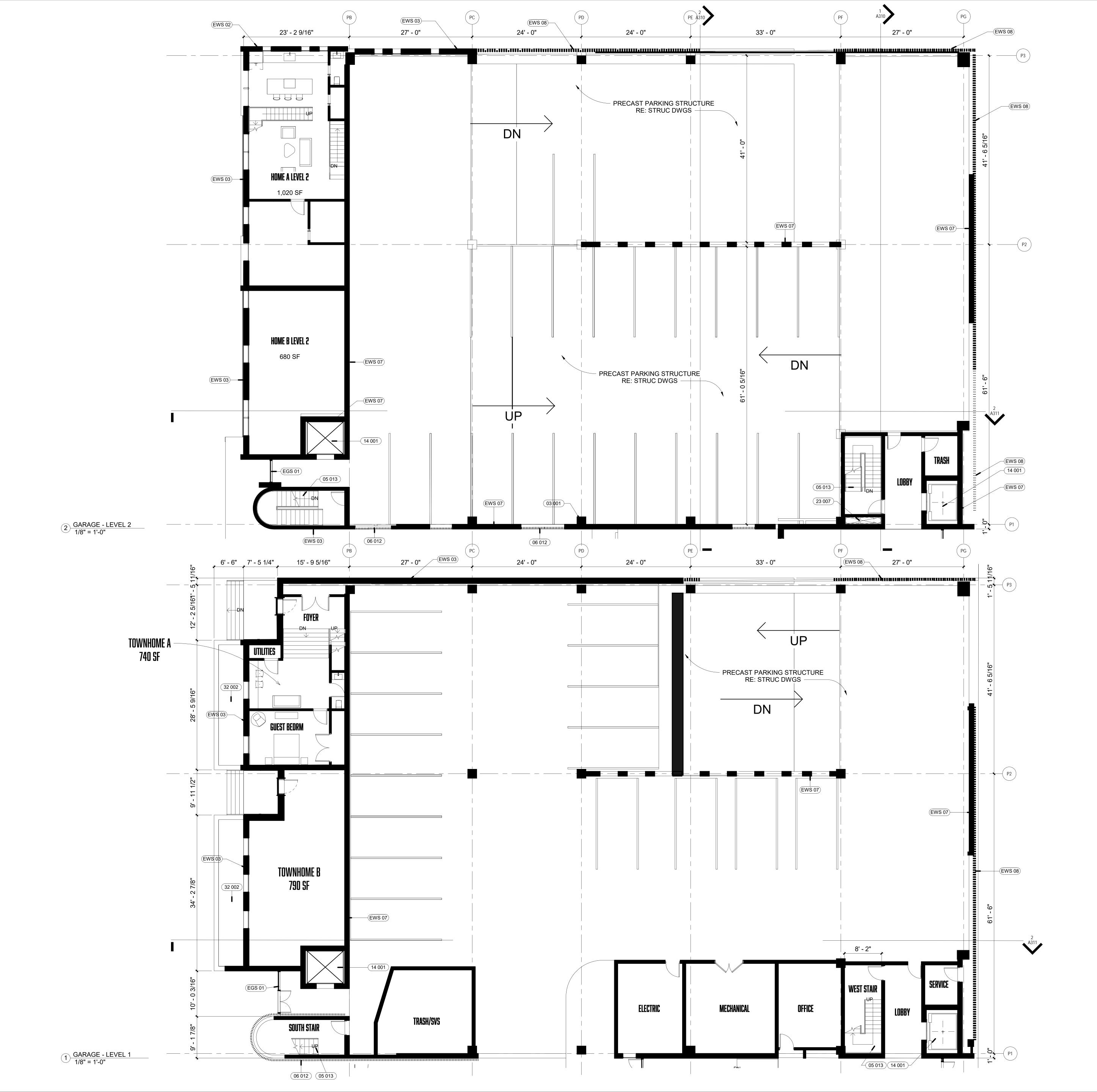
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DRAWING ISSUE	DATE		
SCHEMATIC DESIGN 01.18.201			
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018		

LEVEL 4 FLOOR PLAN



DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018



KEYNOTES DESCRIPTION 03 001 STRUCTURAL CONCRETE, RE: STRUCT. DWGS. 05 013 PRE-ASSMEBLED GALV. STEEL STAIRS, PAINTED 06 012 CHARRED CEDAR VERTICAL WOOD SCREEN 14 001 HYDRAULIC ELEVATOR, 4000 POUND MACHINE-ROOM-LESS, B.O.D. THYSSENKRUPP ENDURA 23 007 MECH. DUCT, RE: MECH. DWGS. 32 002 CONCRETE PLANTER WITH LINER, SOIL, AND VEGETATION EGS 01 THERMALLY-BROKEN, INSULATED STOREFRONT SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 451T-VG W KYNAR FINISH EWS 02 ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 2 1/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM POLYURETHANE INSULATION, AND 5/8" GYP STRUCTURAL ENGINEER EWS 03 FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, STRUCTURE, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD EWS 07 PRECAST CONCRETE WALL SYSTEM: WHITE PORTLAND CEMENT WITH FORMLINER EWS 08 VERTICALLY ORIENTED 1x2 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP

SYSTEM ATTACHED TO EDGE OF SLAB AS

SUGI BAN CHARRED CEDAR)

NECESSARY, B.O.D. RESAWN TIMBER CO. SHOU

2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

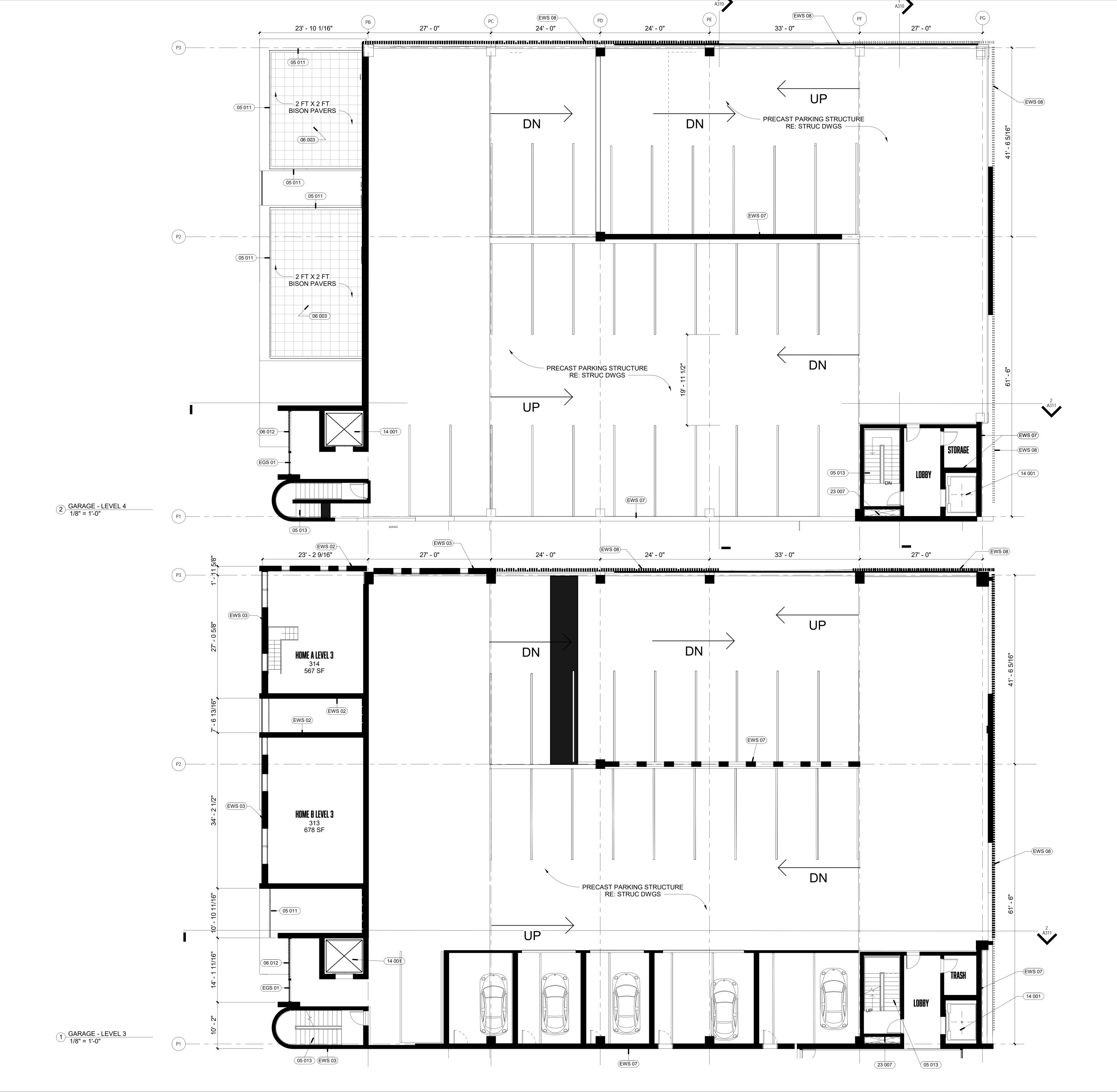
ARCHITECTS

OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

GARAGE PLANS

SCALE : AS INDICATED



KEYNOTES DESCRIPTION 05 011 1/2" TEMPERED GLASS GUARDRAIL IN STAINLESS STEEL SHOE 05 013 PRE-ASSMEBLED GALV. STEEL STAIRS. PAINTED 06 003 2X2 WOOD PAVERS B.O.D. BISON WITH TROWELED-ON WATERPROOFING BELOW 06 012 CHARRED CEDAR VERTICAL WOOD SCREEN HYDRAULIC ELEVATOR, 4000 POUND MACHINE-ROOM-LESS, B.O.D. THYSSENKRUPP ENDURA 23 007 MECH. DUCT, RE: MECH. DWGS. EGS 01 THERMALLY-BROKEN, INSULATED STOREFRONT SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 451T-VG W KYNAR FINISH EWS 02 ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 2 1/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM POLYURETHANE INSULATION, AND 5/8" GYP BOARD EWS 03 FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, STRUCTURE, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD EWS 07 PRECAST CONCRETE WALL SYSTEM: WHITE PORTLAND CEMENT WITH FORMLINER EWS 08 VERTICALLY ORIENTED 1x2 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP SYSTEM ATTACHED TO EDGE OF SLAB AS

NECESSARY, B.O.D. RESAWN TIMBER CO. SHOU

SUGI BAN CHARRED CEDAR)

1003

2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

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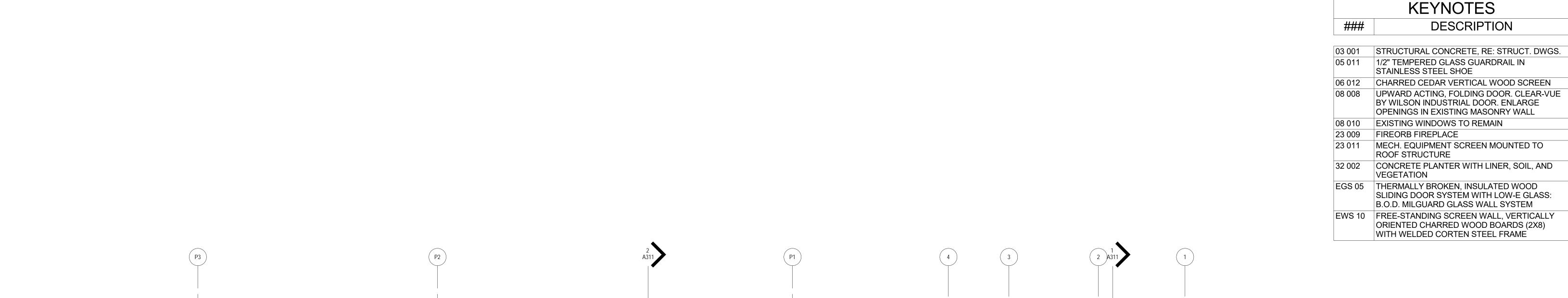
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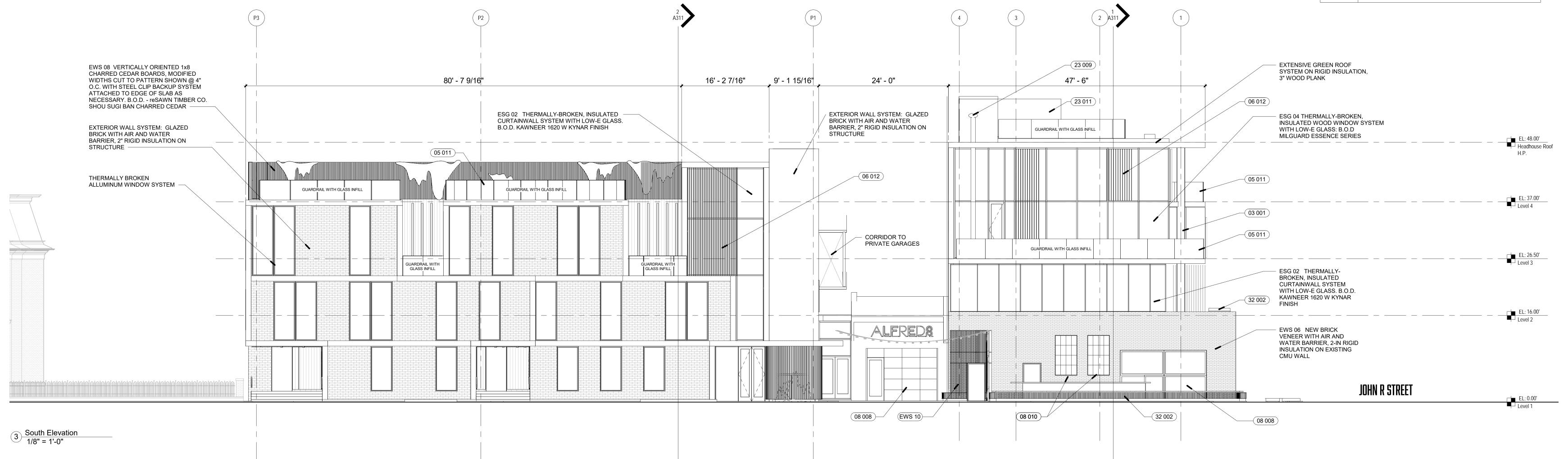
DATE
01.18.2018
04.20.2018

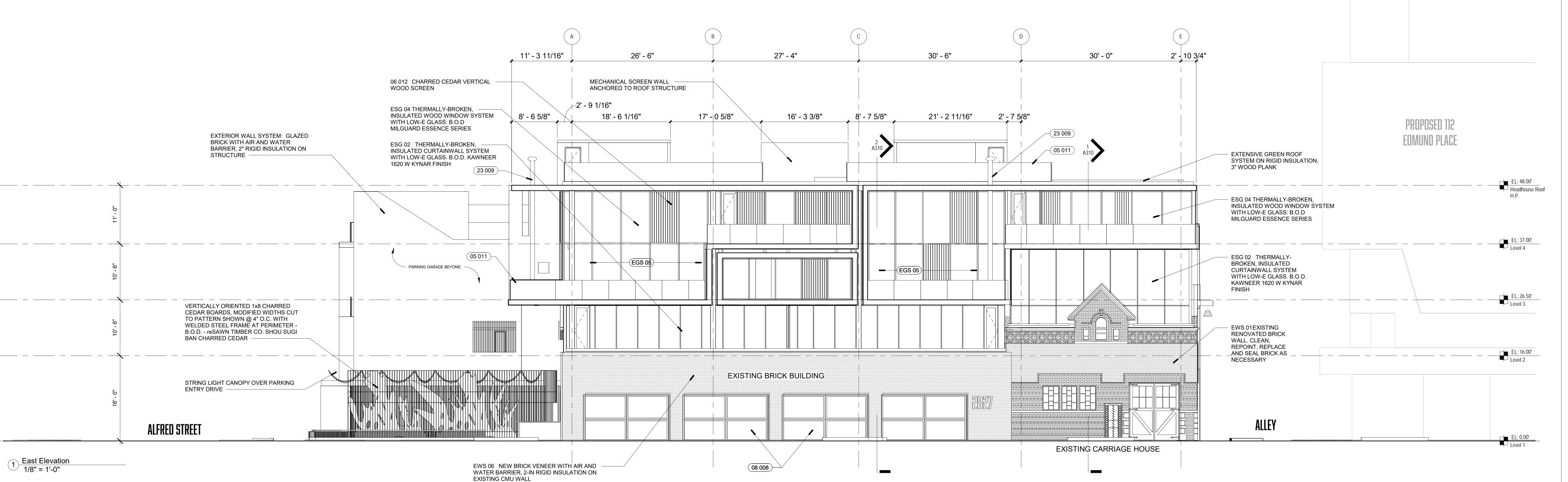
GARAGE PLANS

A2111

SCALE: AS INDICATED 4/21/2018 2:02:04 PM







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OWNER

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

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MEP ENGINEER

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DOMBRA ARCHITECTS

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DRAWING ISSUE	DATE
CONCEPTUAL DESIGN	11.16.2017
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

BUILDING ELEVATIONS

A301

4/21/2018 2:02:16 PM

SCALE: AS INDICATED



2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

OONBRA ARCHITECTS

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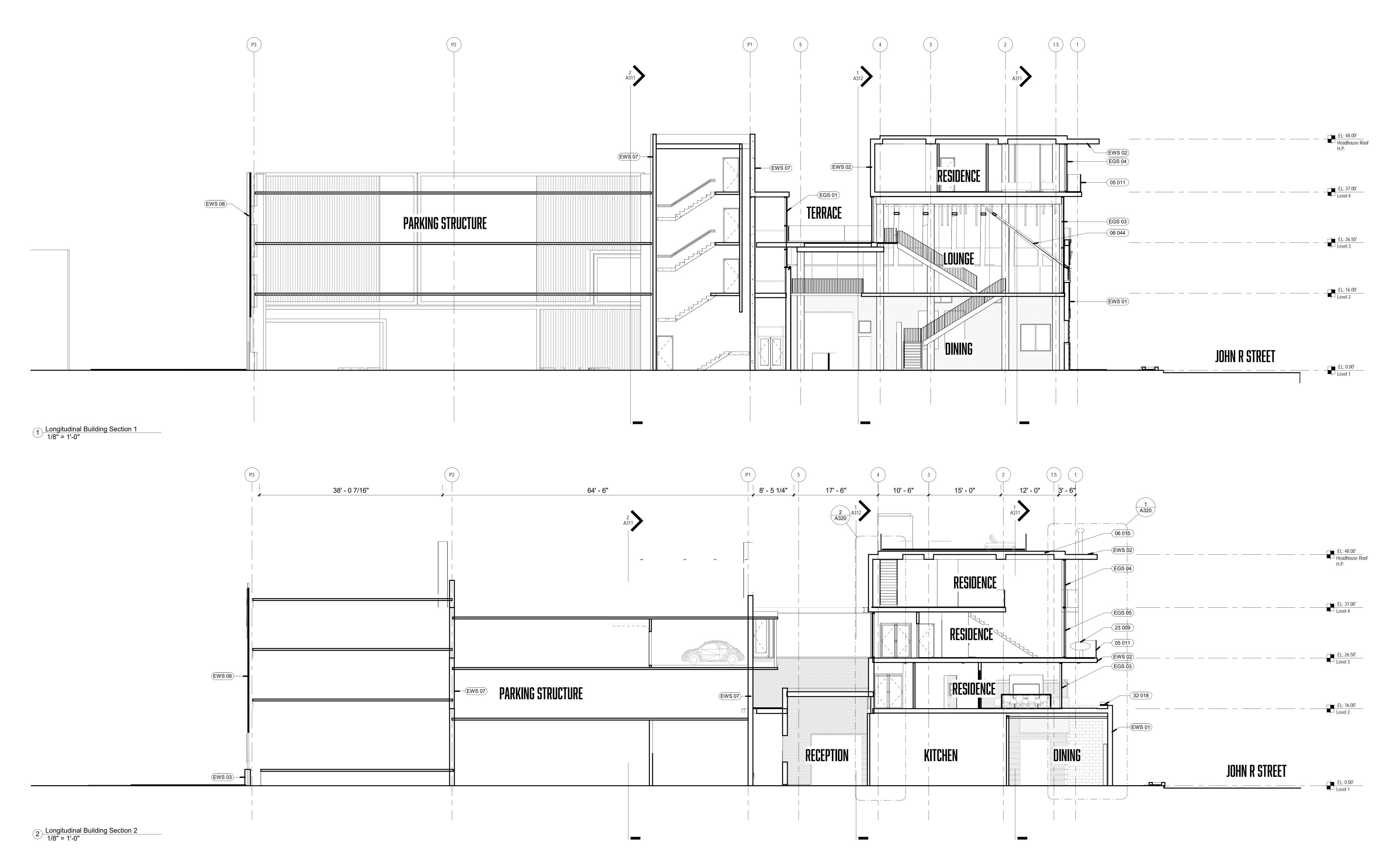
DRAWING ISSUE	DATE
CONCEPTUAL DESIGN	11.16.2017
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

BUILDING ELEVATIONS

A302

###	DESCRIPTION
05 011	1/2" TEMPERED GLASS GUARDRAIL IN STAINLESS STEEL SHOE
06 015	3" WOOD PLANK
06 044	HEAVY TIMBER CARRIAGE HOUSE BRACING
23 009	FIREORB FIREPLACE
32 018	CORTEN STEEL PLANTER BOXES WITH LINER, GROWING MEDIA, VEGETATION
EGS 01	THERMALLY-BROKEN, INSULATED STOREFRON SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 451T-VG W KYNAR FINISH
EGS 03	THERMALLY-BROKEN, INSULATED INTERNALLY REINFORCED SSG CURTAINWALL SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 1620 SSG W KYNAR FINISH
EGS 04	THERMALLY-BROKEN, INSULATED WOOD WINDOW SYSTEM WITH LOW-E GLASS: B.O.D MILGUARD ESSENCE SERIES

	KEYNOTES	
	###	DESCRIPTION
	EGS 05	THERMALLY BROKEN, INSULATED WOOD SLIDING DOOR SYSTEM WITH LOW-E GLASS: B.O.D. MILGUARD GLASS WALL SYSTEM
ER,	EWS 01	EXISTING RENOVATED BRICK WALL. CLEAN, REPOINT, REPLACE AND SEAL BRICK AS NECESSARY. 2x4 INTERIOR FURRING AT 24" O.C., 3" CLOSED-CEL SPRAY INSUL, 5/8" GYP, PAINTED.
EER LLY WITH V	EWS 02	ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 2 1/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM POLYURETHANE INSULATION, AND 5/8" GYP BOARD
D	EWS 03	FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, STRUCTURE, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD
	EWS 07	PRECAST CONCRETE WALL SYSTEM: WHITE PORTLAND CEMENT WITH FORMLINER
	EWS 08	VERTICALLY ORIENTED 1x2 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP SYSTEM ATTACHED TO EDGE OF SLAB AS NECESSARY, B.O.D. RESAWN TIMBER CO. SHOU SUGI BAN CHARRED CEDAR)



2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

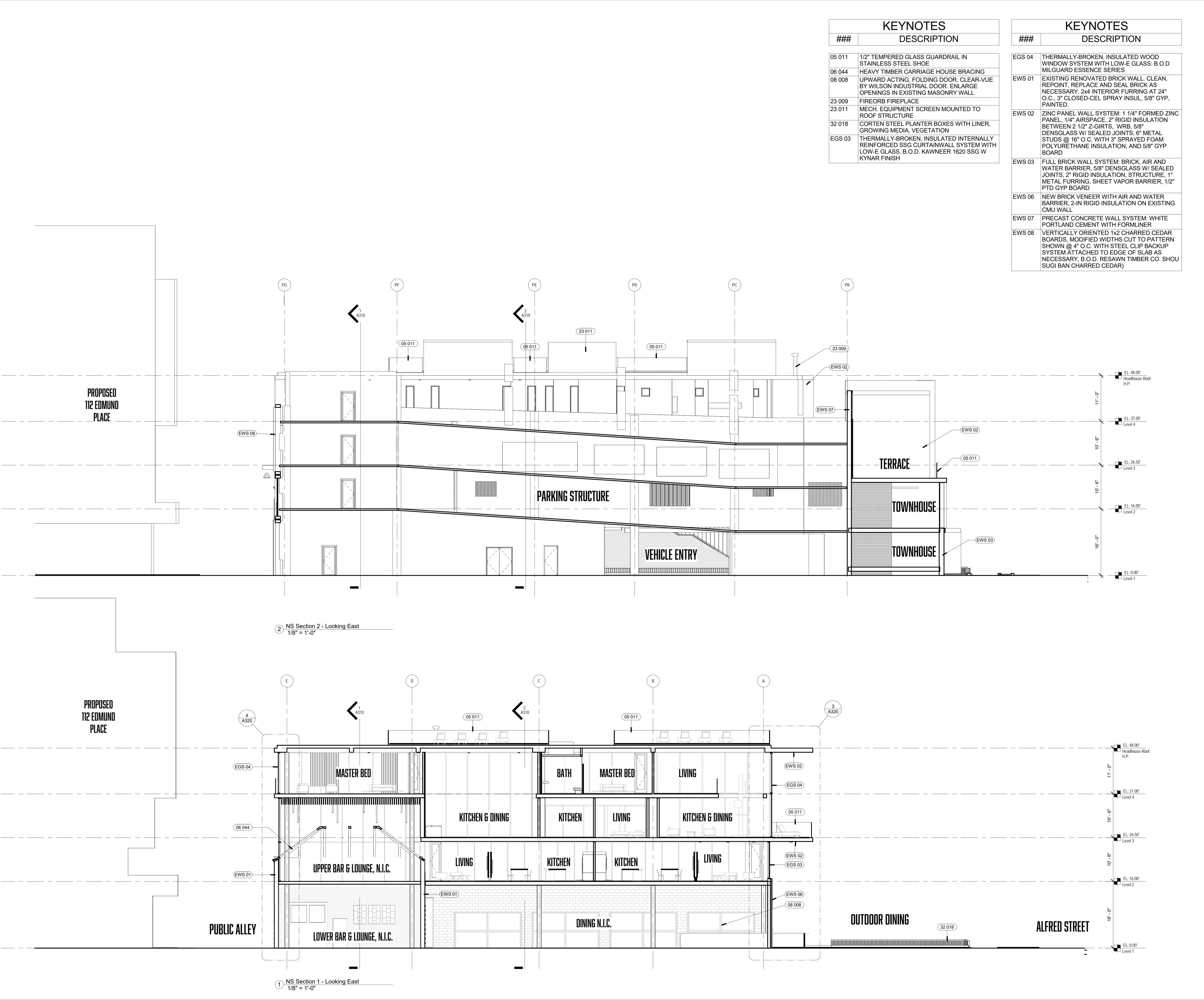
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DATE
11.16.2017
01.18.2018
04.20.2018

BUILDING SECTIONS

A310SCALE : AS INDICATED 4/21/2018 2:02:22 PM



2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

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DRAWING ISSUE	DATE
CONCEPTUAL DESIGN	11.16.2017
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

BUILDING SECTIONS

SCALE : AS INDICATED

A311

4/21/2018 2:02:23 PM

###	DESCRIPTION
05 004	1-1/2" O.D. STEEL TUBE HANDRAIL, RETURN HANDRAIL TO ADJACENT WALL
05 011	1/2" TEMPERED GLASS GUARDRAIL IN STAINLESS STEEL SHOE
05 013	PRE-ASSMEBLED GALV. STEEL STAIRS, PAINTED
06 044	HEAVY TIMBER CARRIAGE HOUSE BRACING
800 80	UPWARD ACTING, FOLDING DOOR. CLEAR-VU BY WILSON INDUSTRIAL DOOR. ENLARGE OPENINGS IN EXISTING MASONRY WALL
08 012	THERMALLY BROKEN INSULATED ALUMINUM WINDOW SYSTEM
23 009	FIREORB FIREPLACE
32 018	CORTEN STEEL PLANTER BOXES WITH LINER GROWING MEDIA, VEGETATION
EGS 03	THERMALLY-BROKEN, INSULATED INTERNALL REINFORCED SSG CURTAINWALL SYSTEM WI LOW-E GLASS. B.O.D. KAWNEER 1620 SSG W KYNAR FINISH

KEYNOTES	KEYNOTES		
DESCRIPTION	###	DESCRIPTION	
2" O.D. STEEL TUBE HANDRAIL, RETURN IDRAIL TO ADJACENT WALL TEMPERED GLASS GUARDRAIL IN INLESS STEEL SHOE	EWS 01	EXISTING RENOVATED BRICK WALL. CLEAN, REPOINT, REPLACE AND SEAL BRICK AS NECESSARY. 2x4 INTERIOR FURRING AT 24" O.C., 3" CLOSED-CEL SPRAY INSUL, 5/8" GYP, PAINTED.	
ASSMEBLED GALV. STEEL STAIRS, IED Y TIMBER CARRIAGE HOUSE BRACING ARD ACTING, FOLDING DOOR. CLEAR-VUE ILSON INDUSTRIAL DOOR. ENLARGE IINGS IN EXISTING MASONRY WALL MALLY BROKEN INSULATED ALUMINUM		ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 2 1/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM POLYURETHANE INSULATION, AND 5/8" GYP BOARD	
DOW SYSTEM FORB FIREPLACE RTEN STEEL PLANTER BOXES WITH LINER, DWING MEDIA, VEGETATION RMALLY-BROKEN, INSULATED INTERNALLY	EWS 03	FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, STRUCTURE, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD	
NFORCED SSG CURTAINWALL SYSTEM WITH V-E GLASS. B.O.D. KAWNEER 1620 SSG W	EWS 09	CHANNEL GLASS WALL SYSTEM WITH CONTINUOUS STRIP LIGHT AT PERIMETER	
AR FINISH	EWS 10	FREE-STANDING SCREEN WALL, VERTICALLY ORIENTED CHARRED WOOD BOARDS (2X8) WITH WELDED CORTEN STEEL FRAME	

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

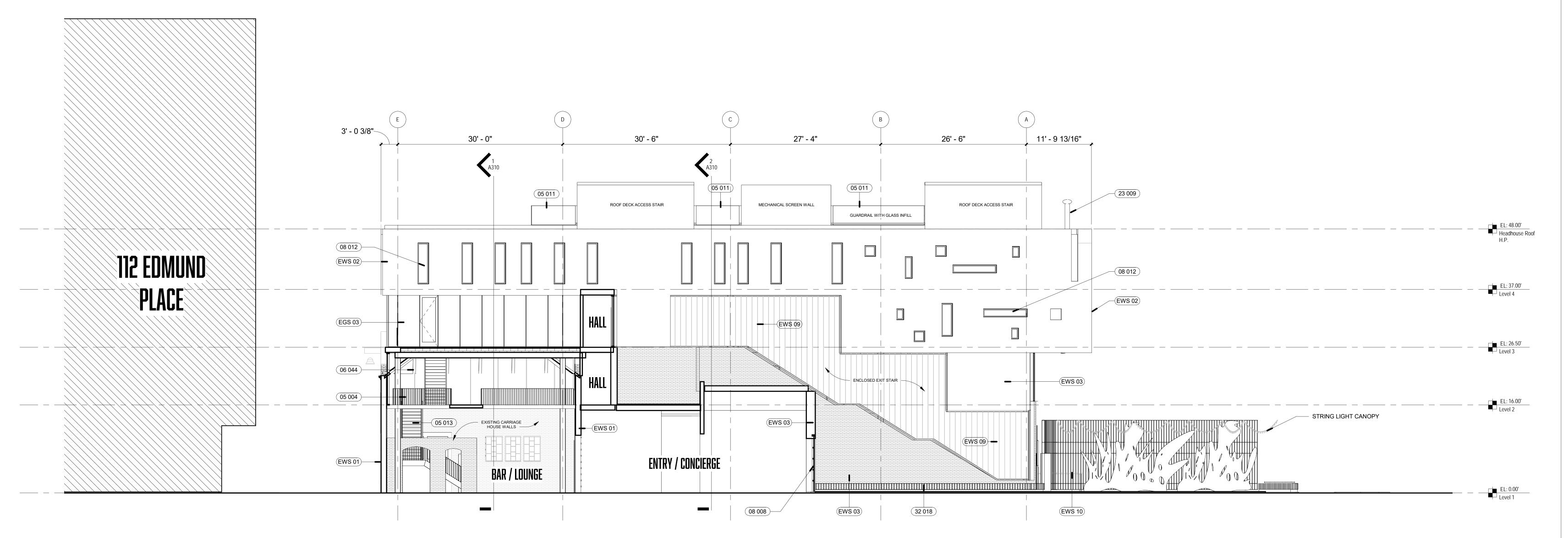
STRATEGIC ENERGY SOLUTIONS, INC. 4000 WEST ELEVEN MILE ROAD BERKLEY, MI 48072 248.399.1900

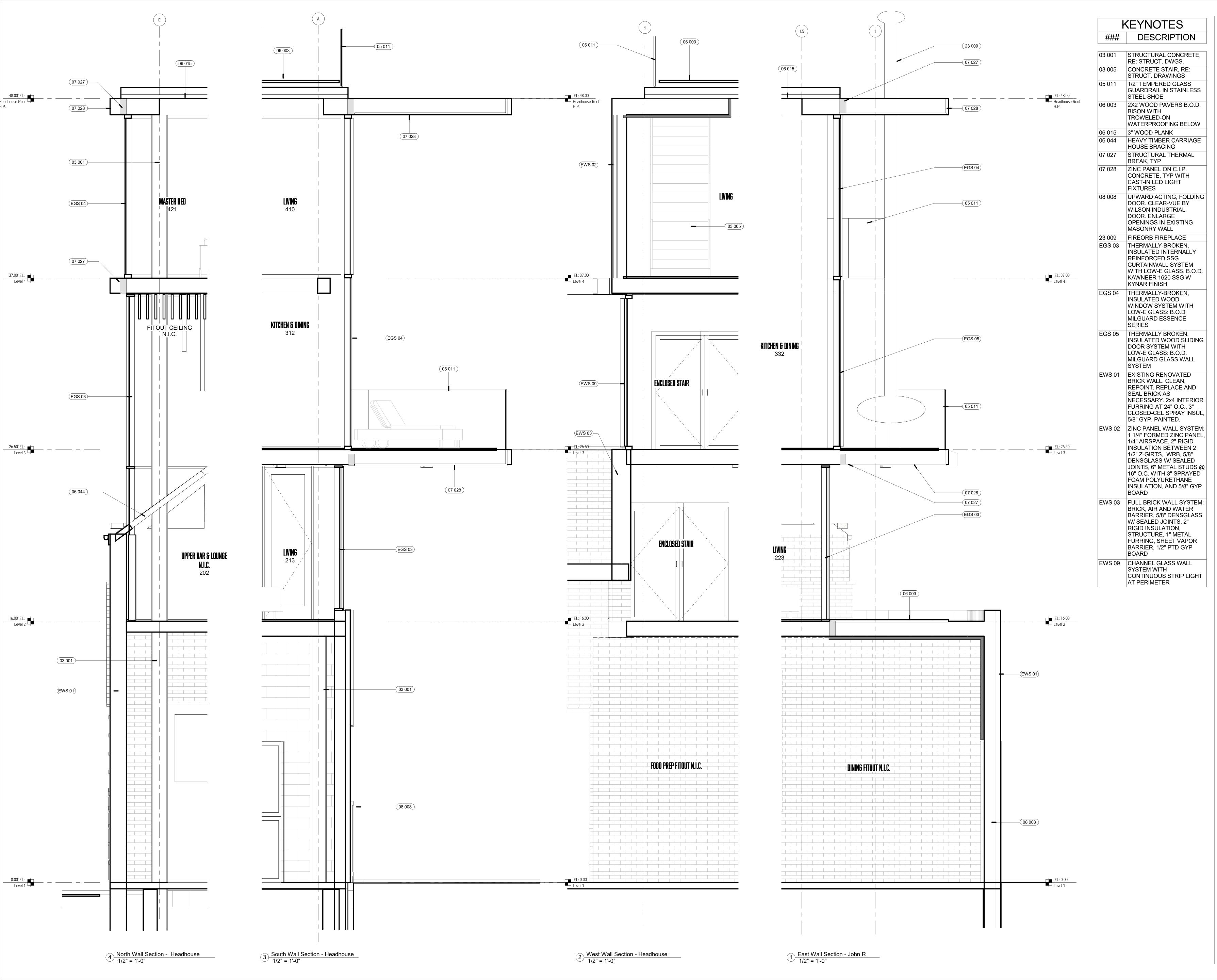
OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

BUILDING SECTIONS

SCALE : AS INDICATED





2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226

313.769.5770

MEP ENGINEER

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DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

WALL SECTIONS

A320SCALE : AS INDICATED 4/21/2018 2:02:25 P



KITCHEN

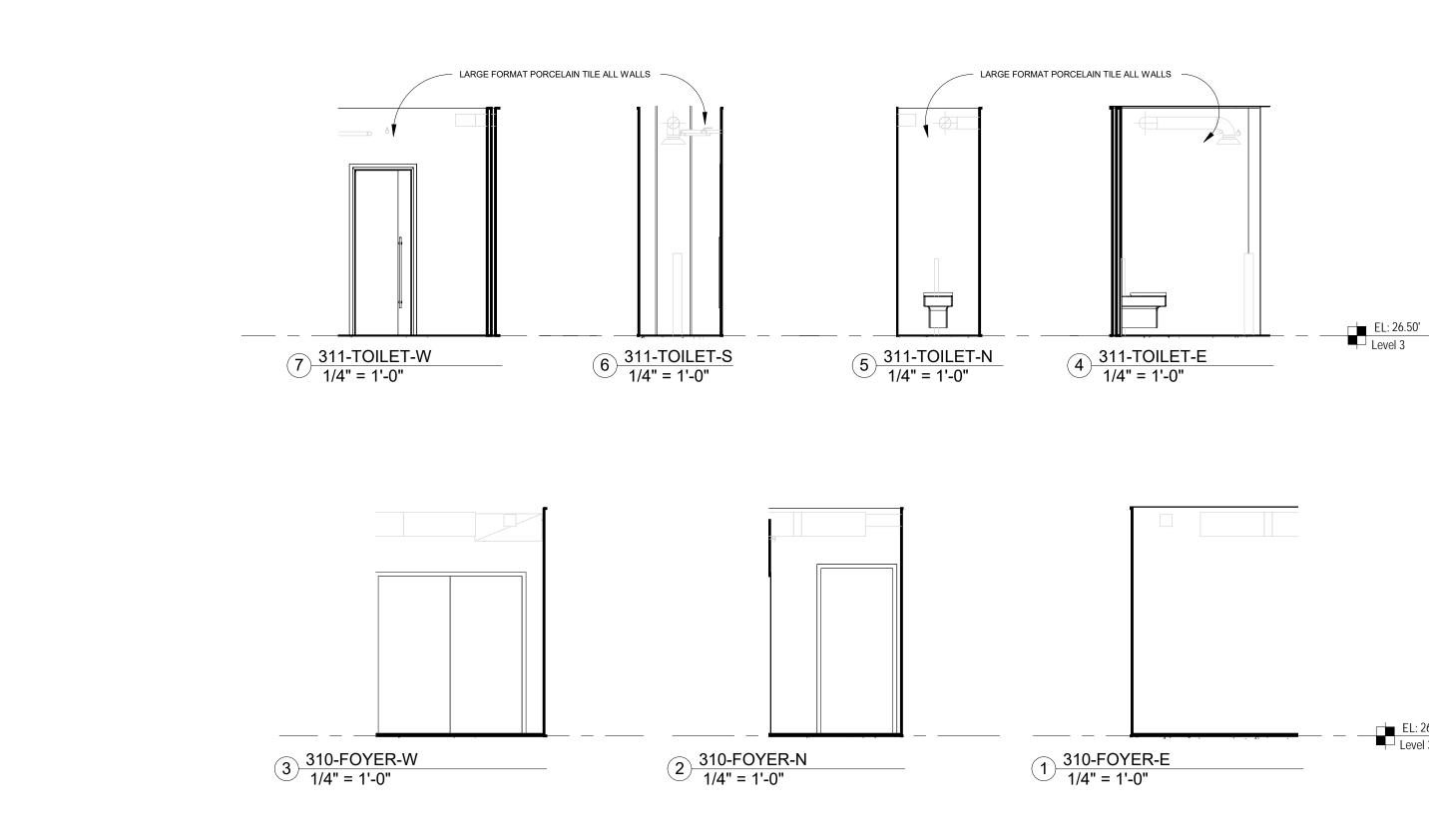


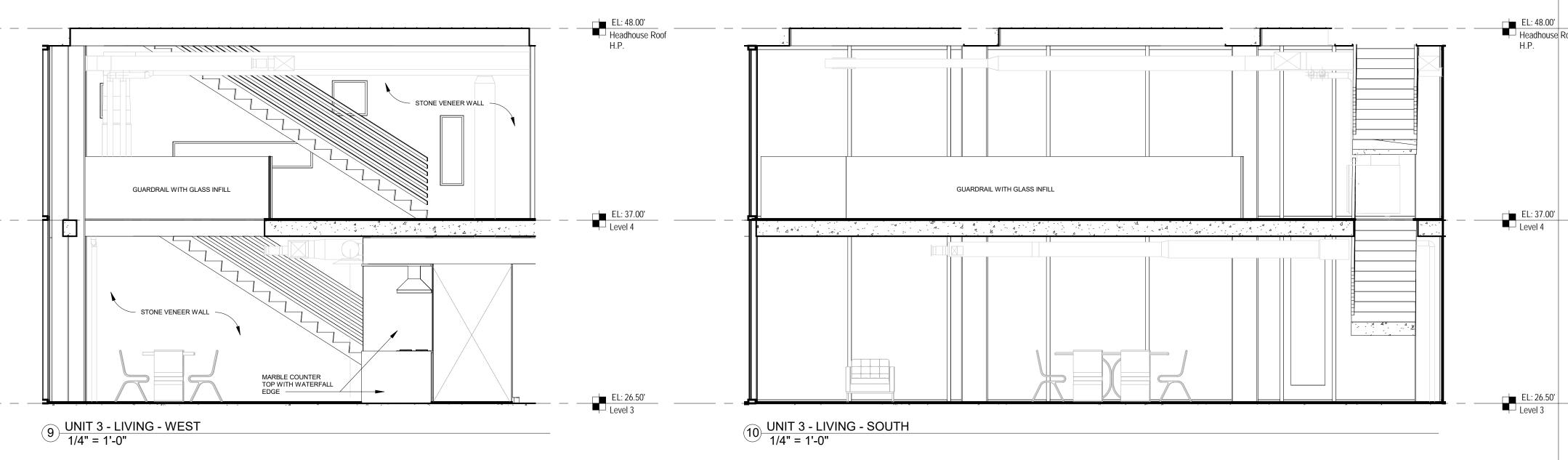
DINING

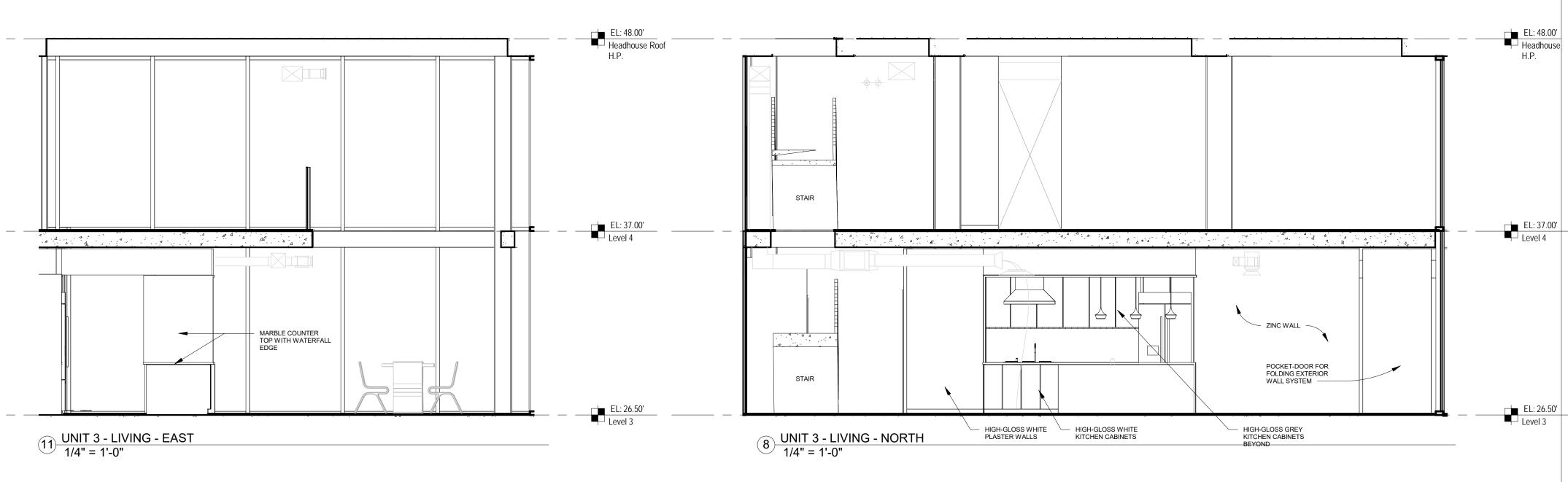


KITCHEN AND DINING

KEYNOTES
DESCRIPTION







1003

2827 JOHN R STREET DETROIT MI 48201

OWNER

BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201 313.578.1200

ARCHITECT

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STRUCTURAL ENGINEER

THE HARMAN GROUP, INC. 900 WEST VALLEY FORGE ROAD SUITE 200 KING OF PRUSSIA, PA 19406 610.337.3360

LANDSCAPE & CIVIL ENGINEER

PEA INC. 45 WEST GRAND RIVER AVE SUITE 501 DETROIT, MI 48226 313.769.5770

MEP ENGINEER

STRATEGIC ENERGY SOLUTIONS, INC.
4000 WEST ELEVEN MILE ROAD
Headhouse Roof BERKLEY, MI 48072
248.399.1900

OOMBRA ARCHITECTS

OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM 215.948.2564

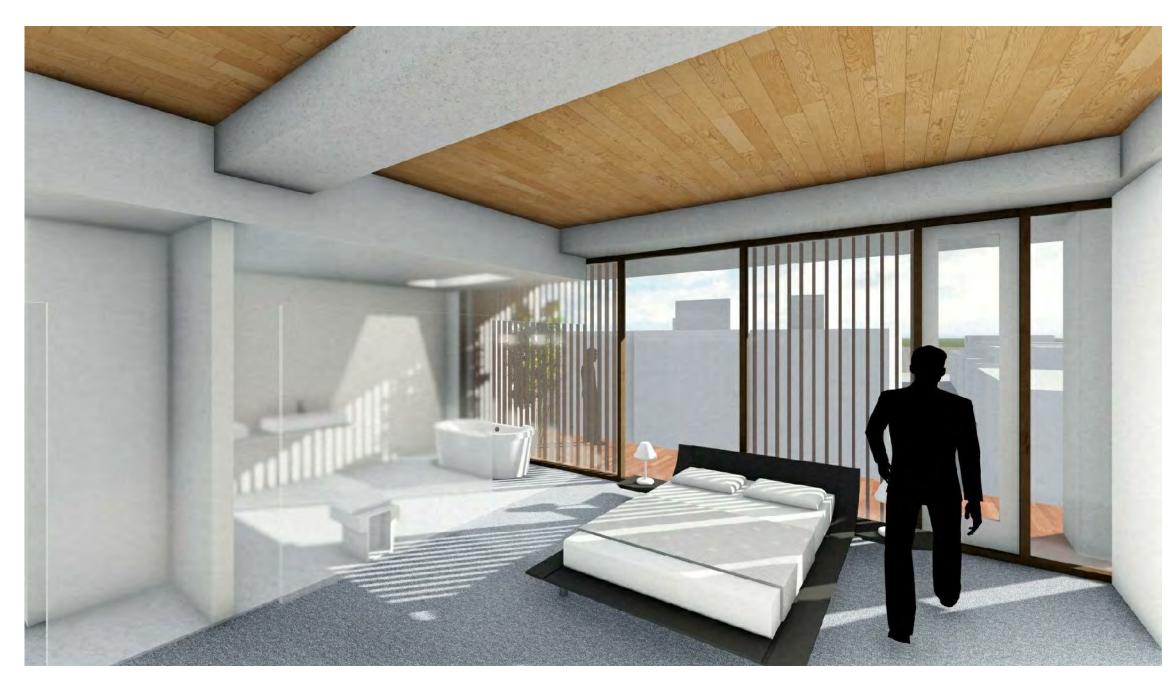
DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

UNIT 4 - INTERIORS

A410



LIVING

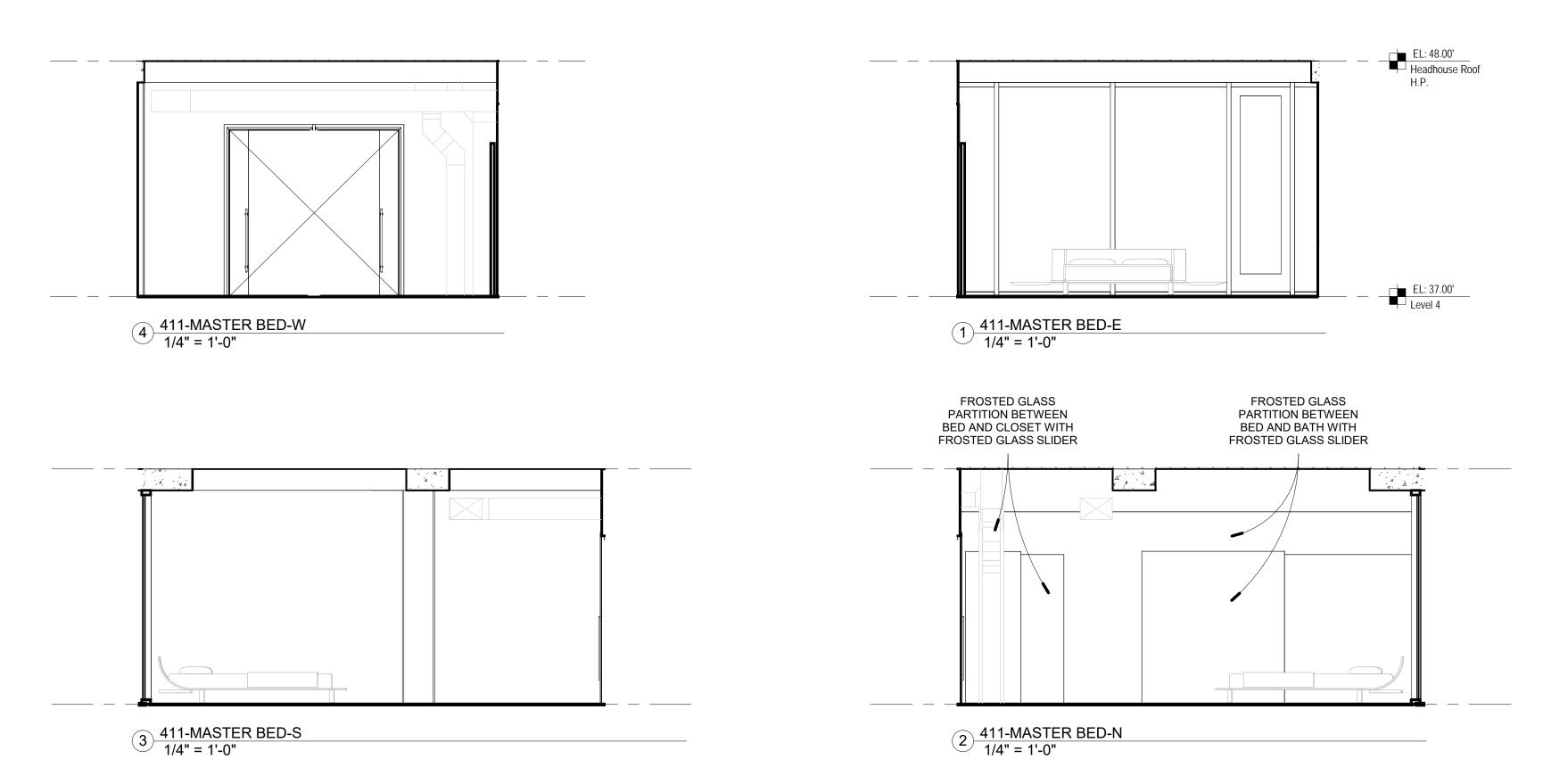


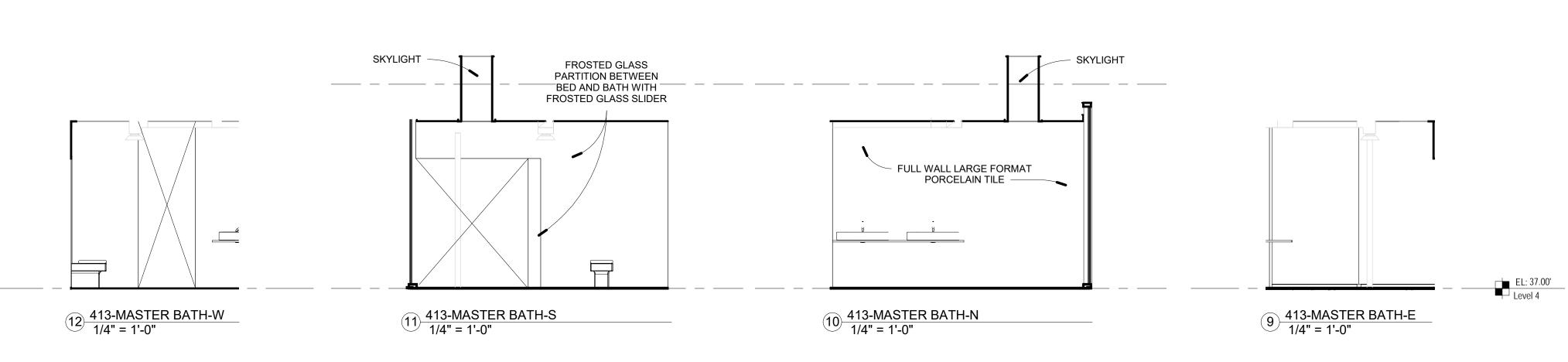
MASTER BED



MASTER BATH

KEYNOTES
DESCRIPTION





1003

2827 JOHN R STREET DETROIT MI 48201

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ARCHITECT

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DRAWING ISSUE	DATE
SCHEMATIC DESIGN	01.18.2018
BUILDING SYSTEMS SCHEMATIC DESIGN	04.20.2018

UNIT 4 - INTERIORS

A411

1.THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR BID UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS "ISSUED FOR BID". 2.THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR CONSTRUCTION UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS

"ISSUED FOR CONSTRUCTION". 3.U.L. FIRE RESISTANCE RATING RESTRAINT CLASSIFICATION: a. ALL STRUCTURAL FRAMING IS "RESTRAINED" EXCEPT AS INDICATED IN NOTE "b".

b. THE FOLLOWING FRAMING IS "UNRESTRAINED": 1. FRAMING SUPPORTED ON BEARING WALLS (OTHER THAN CAST-IN-PLACE CONCRETE WALLS) IN END BAYS AND OTHER LOCATIONS WHERE THE END OF THE FRAMING IS NOT ABUTTING FRAMING IN AN ADJACENT BAY. 2. ALL WOOD CONSTRUCTION

B. CODES AND STANDARDS:

1.THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT. USE THE VERSION REFERENCED IN THE BUILDING CODE UNLESS NOTED OTHERWISE.

a. BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE, NEW JERSEY EDITION

b. BUILDING CODE: 2009 INTERNATIONAL BUILDING CODE

c. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", ASCE 7-XX, AMERICAN SOCIETY OF CIVIL ENGINEERS.

d. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE",

ACI 318-XX, AMERICAN CONCRETE INSTITUTE. e. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 6. f. "MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL

INSTITUTE. g. "PCI DESIGN HANDBOOK - PRECAST AND PRESTRESSED CONCRETE",

PRECAST/PRESTRESSED CONCRETE INSTITUTE. h. "STEEL CONSTRUCTION MANUAL", AMERICAN INSTITUTE OF STEEL

CONSTRUCTION, XXX EDITION, 20XX, INCLUDING ALL SPECIFICATIONS AND CODES IN PART 16.

i. "DETAILING FOR STEEL CONSTRUCTION", AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

j. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1

"STRUCTURAL WELDING CODE - REINFORCING STEEL", AWS D1.4 k. "TYPICAL CONSTRUCTION DETAILS", AITC 104, AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

I. "STANDARD APPEARANCE GRADES FOR STRUCTURAL GLUED LAMINATED TIMBER, AITC 110", AMERICAN INSTITUTE OF TIMBER CONSTRUCTION. m. "STANDARD FOR DIMENSIONS OF STRUCTURAL GLUED LAMINATED TIMBER",

AITC 113", AMERICAN INSTITUTE OF TIMBER CONSTRUCTION. n. "STANDARD SPECIFICATION FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFT SPECIES", AITC 117, AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

o. "STANDARD SPECIFICATION FOR STRUCTURAL GLUED LAMINATED TIMBER OF HARDWOOD SPECIES", AITC 119, AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

p. "MANUFACTURING QUALITY CONTROL SYSTEMS MANUAL FOR STRUCTURAL GLUED LAMINATED TIMBER", AITC 200, AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

q. "STRUCTURAL GLUED LAMINATED TIMBER", ANSI/AITC A 190.1,

AMERICAN INSTITUTE OF TIMBER CONSTRUCTION. r. "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION

w/ 2005 SUPPLEMENT", NDS, AMERICAN FOREST & PAPER ASSOC. s. "PANEL DESIGN SPECIFICATION", APA PDS, APA - THE ENGINEERED WOOD ASSOCIATION

t. "TOLERANCE MANUAL FOR PRECAST AND PRESTRESSED CONCRETE CONSTRUCTION", PRECAST/PRESTRESSED CONCRETE INSTITUTE, PUBLICATION MNL-135.

C. DESIGN LOADS:

1. GRAVITY LOADS:

FOR LOAD MAPS INDICATING ALL GRAVITY LOADS FOR WHICH a. SEE DRAWING THE STRUCTURE HAS BEEN DESIGNED.

b. LIVE LOAD REDUCTIONS HAVE BEEN USED FOR DESIGN OF THE STRUCTURAL FRAMING WHERE PERMITTED PER ASCE 7.

2. GR/

ROOM FLOOR

AVITY LOADS (SERVICE LEV	'EL):		
LOCATION		LOCATION	
ALL FLOORS, U.N.O.	100 PSF	PARTITIONS ON GUEST	
LOBBIES	100 PSF	ROOM LEVELS	15 PSF
BALLROOMS	100 PSF	PARTITIONS ON FLOOR	
KITCHENS	150 PSF	WHERE LL < 100 PSF	20 PSF
GUEST ROOM LEVELS	40 PSF	SUSPENDED CEILING & MEP	
MECHANICAL ROOMS	250 PSF	LOADS (SEE NOTE "b" BELOW)	12 PSF
MECH PENTHOUSE FLOOR	250 PSF	<u> </u>	
STORAGE ROOMS	200 PSF	BALLASTED ROOFING SYSTEM & INSULATION	50 PSF
LIBRARIES	150 PSF	STSTEM & INSCENTION	
DENSE FILE STORAGE	250 PSF	FLOOR FINISHES (PER INCH	50 PSF
PARKING LEVELS, U.N.O.	40 PSF	OF FLOOR SLAB DEPRESSION)	30 1 31
PARKING LEVELS SUBJECT TO SNOW LOADS	80 PSF	SUSPENDED PIPING IN CEILING OF MECH. ROOMS	50 PSF
LOADING DOCK	250 PSF		
TRUCK DRIVING LANES	250 PSF	NOTE: LIVE LOAD REDUCTIONS H	
TERRACE	100 PSF	USED FOR DESIGN OF THE STRUC FRAMING WHERE PERMITTED	
BALCONIES	100 PSF	HARIINO WHERE FERRITH	LD
ROOF	20 PSF		
ELEVATOR MACHINE	125 PSF +		

ROOM LEVELS	15 PSF		
PARTITIONS ON FLOOR WHERE LL < 100 PSF	20 PSF		
SUSPENDED CEILING & MEP LOADS (SEE NOTE "b" BELOW)	12 PSF		
BALLASTED ROOFING SYSTEM & INSULATION	50 PSF		
FLOOR FINISHES (PER INCH OF FLOOR SLAB DEPRESSION)	50 PSF		
SUSPENDED PIPING IN CEILING OF MECH. ROOMS	50 PSF		
NOTE: LIVE LOAD REDUCTIONS HAVE BEEN			

PARKING GARAGE DESIGN LOADS			
LOCATION	LIVE LOAD	SUPERIMPOSED DEAD LOAD	
LOBBIES	100 PSF	5 PSF	
STAIRS	100 PSF	5 PSF	
ROOF	20 PSF	5 PSF	
PARKING LEVELS, U.N.O.	40 PSF	5 PSF	* L
PARKING LEVELS SUBJECT	00 DCF	E DCE	LE\ FI (

REACTIONS

LIVE LOADS ON PARKING VELS SHALL BE CONSIDERED FLOOR LIVE LOADS WHEN USED TO SNOW LOADS * WITH ASCE 7 LOAD COMBINATIONS

ROOF SNOW LOAD: OCCUPANCY CATEGORY: I, II, III OR IV SNOW IMPORTANCE FACTOR, I: 1.0, 1.1 OR 1.2 GROUND SNOW LOAD, Pg: 20 PSF, 30 PSF, ETC.

TERRAIN CATEGORY: A, B, C, OR D EXPOSURE OF ROOF: FULLY EXPOSED, ETC SNOW EXPOSURE FACTOR, Ce: 1.0 (MODIFY TO SUIT) THERMAL FACTOR, Ct: 1.0, 1.1, 1.2, ETC. FLAT ROOF SNOW LOAD, Pf: $0.7 \times Ce \times Ct \times I \times Pg =$ _____ PSF I x Pg = ____ PSF

a. THE CONTRACTOR SHALL CONFIRM THAT THE ACTUAL MECHANICAL UNITS PURCHASED ARE OF WEIGHT AND SIZE SUCH THAT THE TOTAL SUPERIMPOSED LOAD UNDER EACH UNIT DOES NOT EXCEED THE LIVE LOAD FOR WHICH THE FLOOR WAS DESIGNED IN THE FLOOR AREA WHERE THE UNIT IS LOCATED.

I x 20 PSF = ____ PSF

TOTAL SUPERIMPOSED = TOTAL EQUIPMENT WEIGHT ≤ INDICATED SERVICE LEVEL LOAD UNDER UNIT UNIT FOOTPRINT AREA DESIGN LIVE LOAD

TOTAL EQUIPMENT WEIGHT = OPERATING WT. OF UNIT + CONCRETE HOUSEKEEPING PAD + INERTIA BLOCK + OTHER ANCILLARY ITEMS ASSOCIATED WITH

LOCATION OF ANY MECHANICAL UNITS WHERE THE TOTAL SUPERIMPOSED LOAD UNDER THE UNIT EXCEEDS THE INDICATED DESIGN LIVE LOAD FOR THE FLOOR AS INDICATED ON THE LOAD MAPS.

THE EQUIPMENT UNIT FOOTPRINT AREA = EFFECTIVE AREA OF UNIT OR HOUSEKEEPING PAD

WHICHEVER IS LARGER EFFECTIVE AREA $= (LENGTH + 6') \times (WIDTH + 6')$ CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION ON THE b. DOES NOT INCLUDE LINE LOADS FROM MAIN AND BRANCH RUNS OF PIPING. REFER TO THE FRAMING PLANS FOR MAIN AND BRANCH PIPING LINE LOADS. THE CONTRACTOR SHALL VERIFY THAT ALL MAIN AND BRANCH LINE RUNS OF PIPING ARE LOCATED AT THE LOCATIONS SHOWN ON THE LOAD MAP DIAGRAMS.

3. WIND LOADS: a. MAIN WIND-FORCE RESISTING SYSTEM: CONCRETE MOMENT FRAMES BASIC WIND SPEED (3s GUST): (GET FROM MAP) **OCCUPANCY CATEGORY:** WIND IMPORTANCE FACTOR, Iw: 1.00

WIND EXPOSURE: A, B, C, OR D b.SERVICE LEVEL WIND BASE SHEARS: NORTH-SOUTH:

c. COMPONENTS & CLADDING:

EAST-WEST:

INTERNAL PRESSURE COEFFICIENT: ±0.18

BUILDING EXTERIOR COMPONENTS AND CLADDING SHALL BE DESIGNED FOR THE FOLLOWING SERVICE LEVEL WIND PRESSURES:

ZONE*		EFF. WIND	DESIGN	PRESSURI
	AREA		POS.	NEG.
		10	-	-
	1	20	ı	-
	1	50	-	-
		100	-	-
		10	-	-
ROOF	2	20	-	-
RO	2	50	-	-
		100	-	-
	3	10	-	-
		20	-	-
		50	-	-
		100	-	-
	4	20	-	-
		50	-	-
		100	-	-
		200	-	-
اب ا	5	20	-	-
WALL		50	-	-
		100	-	-
		200	-	-
.	NOTEC.			

SEE ASCE 7 FIGURE 6- FOR CLADDING PRESSURE ZONE DIMENSION "a" = ____ FEET.

4. SEISMIC LOADS:

a.ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE b. BASIC SEISMIC-FORCE-RESISTING SYSTEM: R=3 BRACED FRAMES (REVISE AS REQUIRED TO SUIT PROJECT)

('	REVISE AS REQUIRED TO SUIT PROJECT)		
	OCCUPANCY CATEGORY		-
	SEISMIC IMPORTANCE FACTOR	ΙE	-
	SOIL SITE CLASS		-
	MAPPED SHORT PERIOD SPECTRAL ACCEL	Ss	-
	MAPPED 1-SEC PERIOD SPECTRAL ACCEL	S ₁	-
	ACCELERATION RELATED SITE COEFF	Fa	-
	VELOCITY RELATED SITE COEFF	F۷	-
	DESIGN SHORT SPECTRAL RESPONSE COEFF	SDS	-
	DESIGN 1-SEC SPECTRAL RESPONSE COEFF	S_{D1}	-
	TRANSITION PERIOD	Ts	-
	LONG-PERIOD TRANSITION PERIOD	ΤL	-
	SEISMIC DESIGN CATEGORY		-
z	RESPONSE MODIFICATION FACTOR	R	-
	SYSTEM OVERSTRENGTH FACTOR	Ω_0	-
REC	DEFLECTION AMPLIFICATION FACTOR	Са	-
	CALCULATED FUNDAMENTAL PERIOD	Т	-
NORTH-SOUTH DIRECTION	APPROXIMATE FUNDAMENTAL PERIOD	Ta	-
I-SC	COEFF. FOR UPPER LIMIT ONCALC	Си	-
ͳ	UPPER LIMIT ON CALCULATED PERIOD	Cu x Ta	-
2	SEISMIC RESPONSE COEFF	Cs	-
	SEISMIC BASE SHEAR	V	-
_	RESPONSE MODIFICATION FACTOR	R	-
<u>[</u>	SYSTEM OVERSTRENGTH FACTOR	Ω o	-
(EC)	CALCULATED FUNDAMENTAL PERIOD	Са	_
PIF	CALCULATED FUNDAMENTAL PERIOD	Т	_
EST	APPROXIMATE FUNDAMENTAL PERIOD	Ta	-
<u>`</u> _[COEFF. FOR UPPER LIMIT ONCALC	Сυ	-
EAST-WEST DIRECTION	UPPER LIMIT ON CALCULATED PERIOD	Cu x Ta	_
٦	SEISMIC RESPONSE COEFF	Cs	_
	SEISMIC BASE SHEAR	V	-

5. LATERAL EARTH PRESSURES:

a. SERVICE LEVEL "EQUIVALENT FLUID PRESSURES"

CONDITION	$\gamma_{\rm f}$ (pcf)
ACTIVE PRESSURE	-
AT-REST PRESSURE	-

6. OTHER LOADS:

a. HORIZONTAL VEHICULAR IMPACT: 6k (SERVICE LEVEL) HORIZONTAL LOAD AT EITHER 1'-6" OR 2'-3" ABOVE TOP OF FLOOR AT ALL LOCATIONS SUBJECT TO VEHICULAR TRAFFIC AND PARKING.

D. FOUNDATIONS/GEOTECHNICAL REPORT:

1.FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY: ----REPORT NO: ----

SEE THAT REPORT FOR ADDITIONAL INFORMATION.

2. SPREAD FOOTINGS AND CONTINUOUS WALL FOOTINGS HAVE BEEN DESIGNED FOR THE FOLLOWING NET ALLOWABLE BEARING PRESSURE: --- KSF

3. DRILLED PIERS (CAISSONS) HAVE BEEN DESIGNED FOR THE FOLLOWING: NET ALLOWABLE BEARING PRESSURE: --- KSF ALLOWABLE SKIN FRICTION (FOR COMPRESSION LOADS): --- KSF ALLOWABLE SKIN FRICTION (FOR TENSION LOADS):

REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS REGARDING THE DRILLED PIER FOUNDATIONS

E. MATERIALS:

1.THE FOLLOWING ASTM STANDARDS AND DESIGN STRESSES SHALL BE USED FOR THE APPROPRIATE MATERIALS USED IN THE CONSTRUCTION OF THIS PROJECT.

2. CEMENT: ASTM C150, TYPE I OR III (TYP., U.N.O.; SEE BELOW) ASTM C150; TYPE II FOR CONCRETE IN CONTACT WITH EARTH

3.CONCRETE: CONCRETE SHALL HAVE THE FOLLOWING ENGINEERING PROPERTIES a. COMPRESSIVE STRENGTH, W/C RATIO & UNIT WEIGHT

	1	
LOCATION	f'c @ 28 DAYS (PSI)	w/c (MAX PERMITTED)
ALL FOUNDATION CONCRETE, U.N.O.	4500	0.45
DRILLED PIERS	3000	0.55
PILE CAPS	4500	0.45
GRADE BEAMS	4500	0.45
TOPPING SLABS	3000	0.55
SLABS-ON-GRADE (TYP. U.N.O.)	3000	0.55
SLAB-ON-GRADE (PARKING)	4500	0.45
WALLS (OTHER THAN SHEAR WALLS)	4500	0.50
FRAMED SLABS AND BEAMS	5000	0.40
COLUMNS	SEE COL. SCHED.	0.40
SHEAR WALLS	5000	0.40
STRUCTURAL PRECAST**	5000(MIN.)	0.40
CAST-IN-PLACE CONCRETE PLACED ON PRECAST FRAMING (WASHES, TOPPING SLABS AND POUR STRIPS)	5000	0.40
POURABLE FILL & MUD SLABS	1000	N/A
* NOTE: LICHTWEICHT CONCRETE CHALL HAVE	A 11E DCE DDV	LINIT WEIGHT

* NOTE: LIGHTWEIGHT CONCRETE SHALL HAVE A 115 PCF DRY UNIT WEIGHT (+/-3PCF)

**NOTE: REQUIRED COMPRESSIVE STRENGTH OF STRUCTURAL PRECAST CONCRETE SHALL BE DETERMINED BY THE PRECAST CONCRETE MANUFACTURER'S ENGINEER. MINIMUM PERMITTED COMPRESSIVE STRENGTH = 5000 PSI.

b. AIR ENTRAINMENT:

1. CONCRETE LISTED IN TABLE "A" SHALL BE AIR ENTRAINED WITH THE APPROPRIATE PERCENTAGE AIR CONTENT LISTED IN TABLE "B" AS APPLICABLE FOR THE INDICATED EXPOSURE CLASS AND NOMINAL MAXIMUM AGGREGATE SIZE IN THE CONCRETE MIX. THE REQUIRED AIR CONTENT VALUE MAY BE REDUCED BY 1% FOR ALL CONCRETE WITH COMPRESSIVE STRENGTH GREATER THAN 5,000 PSI. THE PERMITTED TOLERANCE ON THE REQUIRED AIR CONTENT IS ±1.5 PERCENT. SEE ACI 318 FOR ADDITIONAL REQUIREMENTS.

2. ALL LIGHTWEIGHT CONCRETE SHALL HAVE 4% TO 7% AIR ENTRAINMENT.

3. INCREASE AIR ENTRAINMENT IF REQUIRED TO CONFORM TO U.L. REQUIREMENTS TO ACHIEVE REQUIRED FIRE RESISTANCE RATINGS.

TABLE "A"			TABLE "E	<u>3"</u>	
LOCATION	EXPOSURE	NOMINAL MAXIMUM	REQD. AIR CONTENT		
	CLASS**		EXPOSURE	E CATEGORY	
FOUNDATION CONCRETE	F2	AGGREGATE SIZE	F1	F2 & F3	
PARKING LEVEL SLABS	F3	3/8"	6%	7.5%	
PARKING LEVEL WALLS & COLUMNS	F1	1/2"	5.5%	7%	
FLOOR FRAMING ON LEVEL BETWEEN LINES - , - , - AND -	F3	3/4"	5%	6%	
COLUMNS BELOW LEVEL	F1	1"	4.5%	6%	
WALLS BELOW LEVEL	F1				

** REFER TO ACI 318

* % AIR ENTRAINMENT SHALL CONFORM TO U.L.RATING REQUIREMENTS FOR FIRE RESISTANCE RATINGS

c.	c. REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE:					
	CONCRETE ELEMENT	REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE*				
	ALL CONCRETE, U.N.O.	1"				
	VOIDED FILIGREE SLABS	3/4"				
	TOPPING SLABS LESS THAN 3" THK.	3/8"				

*SMALLER NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE USED

WHERE REQUIRED PER ACI 318.

d. COMBINED AGGREGATE GRADING: 8% TO 22% (BY WEIGHT) OF AGGREGATE SHALL BE RETAINED ON EACH SIEVE BELOW THE MAXIMUM AGGREGATE SIZE SIEVE AND ABOVE THE #100 SIEVE.

A DEINEODCING STEEL

4.REINFORCING STEEL:	
DEFORMED REINFORCING BARS #10 AND SMALLER #11 AND LARGER	ASTM A615, GRADE 60 ASTM A615, GRADE 75
DEFORMED REINFORCING BARS	ASTM A615, GRADE 60
WELDABLE DEFORMED REINF. BARS	ASTM A706
WELDED WIRE REINFORCEMENT (W.W.R.)	ASTM A185
EPOXY COATED REINF. BARS	ASTM A775
REINFORCING STEEL MECHANICAL SPLICE COUPLERS	LENTON SPLICE COUPLERS OR APPROVED EQUAL CAPABLE OF DEVELOPING 125%xFy IN TENSION OR COMPRESSION
REINFORCING STEEL HEADED DEFORMED BAR ANCHORS	LENTON TERMINATOR BAR ANCHORS OR APPROVED EQUAL CAPABLE OF DEVELOPING 125%xFy IN TENSION OR COMPRESSION
DOWELING ADHESIVE FOR ANCHORING REINF. STEEL INTO EXISTING CONCRETE	HILTI HIT HY 200 SAFE SET SYSTEM WITH HOLLOW DRILL BIT, OR HILTI HIT RE 500 SD SYSTEM
DEFORMED BAR ANCHORS (DBA ANCHORS)	NELSON D2L DEFORMED BAR ANCHORS (ASTM A496) INSTALLED WITH NELSON ELECTRIC-ARC STUD WELDING GUN
HEADED STEEL STUD SHEAR REINFORCING ("STUDRAILS")	ASTM A1044 SHEAR REINFORCEMENT; DECON "STUDRAILS" (MFR. BY DECON USA) OR "DSA RAILS" (MFR. BY PEIKKO GROUP)

EPOXY COAT THE REINFORCING STEEL WHERE INDICATED AND AT FOLLOWING LOCATIONS:

1.LEVELS ____ BETWEEN LINES __, __, __ AND __: EPOXY COAT THE FOLLOWING: a.ALL REINFORCING STEEL IN SLABS

b.ALL TOP STEEL IN BEAMS AND ALL BEAM STIRRUPS c. ALL COLUMN TIES FROM BOTTOM OF SLAB TO 4'-0" ABOVE TOP OF SLAB.

2. LEVELS ____ BETWEEN LINES __, __, __ AND __ **EPOXY COAT THE FOLLOWING:**

b.ALL COLUMN TIES

WHERE EPOXY COATED REINFORCING STEEL IS SPECIFIED, PROVIDE PLASTIC COATED TIE WIRE AND EPOXY COATED SUPPORT BARS, CHAIRS, SLAB BOLSTERS AND OTHER ACCESSORIES TO SUPPORT THE REINFORCING STEEL AND P.T. TENDONS.

a.ALL REINFORCING STEEL IN SLABS, BEAMS AND WALLS.

5. STRUCTURAL STEEL:

W SHAPES	ASTM A992			
CHANNELS, ANGLE, PLATES & BARS	ASTM A36 (Fy=36 ksi) U.N.O. ASTM A572, GR 50 WHERE INDICATED			
ROUND PIPE	ASTM A53, GRADE "B" Fy = 35 KSI			
SQUARE & RECTANGULAR HSS's	ASTM A500, GRADE "C" Fy = 50 KSI			
WELDING ELECTRODES	AWS A5.1 OR A5.5, E70XX			

AFF ADD'L I	ABOVE FINISHED FLOOR ADDITIONAL ANGLE	FDN FIN	FOUNDATION FINISH or FINISHED	PERP PC PL	PERPENDICULAR PRECAST PLATE
ARCH	ARCHITECTURAL / ARCHITECT	fk FL	FOOT-KIPS FLOOR		POST-TENSIONED or
	,	'L FL	FULL LENGTH	PT	PRESERVATIVE-TREAT
BET	BETWEEN	FS	FAR SIDE	PLF	POUNDS PER LINEAR FOOT
BSMT BM	BASEMENT BEAM	FT	FEET	PSI PSF	POUNDS PER SQUARE INCH POUNDS PER SQUARE FOOT
BRG	BEARING	FTG	FOOTING	PSL	PARALLEL STRAND LUMBER
BS	BOTH SIDES	GALV	GALVANIZED	132	TANGLELE STIGNED ESTIBLIC
B or BOT	BOTTOM	GA	GAUGE or GAGE	REINF	REINFORCING or REINFORC
BB	BOTTOMMOST BOTTOM	HGR	HANGER	REM	REMAINDER
BOD BLDG	BOTTOM OF DECK BUILDING	HT	HEIGHT	REQ'D RD	REQUIRED ROOF DRAIN
BLDG	BUILDING	HP	HIGH POINT	RJ	ROUGH JOINT
CANT	CANTILEVER	HK H or HOR	HOOK HORIZONTAL		
CIP	CAST-IN-PLACE			SCHED	SCHEDULE
CFS	COLD-FORMED STEEL	IN	INCHES	SECT SW	SECTION SHORT WAY
CL CLR	CENTER LINE CLEAR	ID INT	INSIDE DIAMETER INTERIOR	SIM	SIMILAR
CLR	COLUMN	INV	INVERT	SOG	SLAB ON GRADE
CONC	CONCRETE			SL	SLOPED
CMU	CONCRETE MASONRY UNIT	JT	JOINT	SP	SPACES
CONN	CONNECTION	 	MIDC	SQ STD	SQUARE STANDARD
CONST CONT	CONSTRUCTION CONTINUOUS	k	KIPS	STL	STEEL
CJ	CONTROL JOINT	LW	LIGHTWEIGHT	STIFF	STIFFENER
C.Y.	CUBIC YARD	LF	LINEAR FOOT	STRUCT	STRUCTURAL
		LG	LONG	SSOG SYM	STRUCTURAL SLAB ON GRAI
D or DP	DEEP / DEPTH	LLH	LONG LEG HORIZOINTAL	3114	STHINLINICAL
DET DIA	DETAIL DIAMETER	LLV LSH	LONG LEG VERTICAL LONG SIDE HORIZONTAL	TEMP	TEMPORARY/TEMPERATURE
DIM	DIMENSION	LW	LONG WAY	T	TOP
DIR	DIRECTION	LP	LOW POINT	T&B	TOP & BOTTOM
do or (")	DITTO	LVL	LAMINATED VENEER LUMBER	TLS TOB	TENSION LAP SPLICE
DBL	DOUBLE	LSL	LAMINATED STRAND LUMBER	TOC	TOP OF CONCRETE
DN DWG	DOWN DRAWING or DRAWINGS	MO	MASONRY OPENING	TOS	TOP OF STEEL
טאעט	DRAWING OF DRAWINGS	MO MECH	MECHANICAL	TOW	TOP OF WALL
EA	EACH	MEP	MECHANICAL, ELECTRICAL	T T	TOPMOST TOP
EE	EACH END		AND PLUMBING	TYP TG	TYPICAL TRANSFER GIRDER
EF CM	EACH FACE	MIN	MINIMUM		
EW EOD	EACH WAY EDGE OF DECK	NS	NEAR SIDE	UNO	UNLESS NOTED OTHERWISE
EOS	EDGE OF SLAB	NTS	NOT TO SCALE	VIF	VERIFY IN FIELD
EL	ELEVATION	NO or #	NUMBER	V or VERT	VERTICAL
EMBED	EMBEDMENT	NW	NORMAL WEIGHT		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
EQ	EQUAL	000	ON CENTED	WS	WATERSTOP
(E) EJ	EXISTING EXPANSION JOINT	OC OPNG	ON CENTER OPENING	WWF WWR	WELDED WIRE FABRIC
	EVI VIAOTOIA POTIAI	OD	OUTSIDE DIAMETER	w/	WITH
		OF	OUTSIDE FACE	WP	WORK POINT

STRUCTURAL DRAWING LIST

DWG. NO.

S100B GARAGE FOUNDATION PLAN

S101B GARAGE LEVEL 2 FRAMING PLAN

S102B GARAGE LEVEL 3 FRAMING PLAN

S103B GARAGE LEVEL 4 FRAMING PLAN

S104B GARAGE ROOF FRAMING LEVEL

S101A LEVEL 2 FRAMING PLAN

S102A LEVEL 3 FRAMING PLAN

S103A LEVEL 4 FRAMING PLAN

S104A ROOF FRAMING PLAN

S200 TYPICAL DETAILS

S201 | TYPICAL DETAILS

S202 TYPICAL DETAILS

S203 TYPICAL DETAILS

S204 TYPICAL DETAILS

S205 TYPICAL DETAILS

S206 TYPICAL DETAILS

S207 TYPICAL DETAILS

S208 TYPICAL DETAILS

S209 TYPICAL DETAILS

S400 | COLUMN SCHEDULE

S300 Unnamed

S301 Unnamed

S302 Unnamed

S303 Unnamed

S401 Unnamed

S402 Unnamed

S403 Unnamed

S404 Unnamed

OWG. NO.	DRAWING TITLE	04/20/2018 - BUILDING SYSTEMS SCHEMATIC DESIGN - I	ATIC DESIGN - NO	OOMBRA ARCHITECTS, LLC. PHILADELPHIA, PA WWW.OOMBRA.COM
S000	GENERAL NOTES	•	E E	215.948.2564
S000	GENERAL NOTES	•	111	
S002	GENERAL NOTES	•		
S003	LOAD MAPS		—	
S010	3D VIEWS	•		
S100A	RESIDENTAIL FOUNDATION PLAN	•		THG PROJECT #: 218032.00

U) DRAWING ISSUE

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GENERAL NOTES

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SCALE:As indicated

DATE

ADHESIVE ANCHORS IN SOLID MASONRY: GROUT FILLED CONCRETE BLOCK AND SOLID BRICK

HILTI HIT HY 70 SYSTEM w/ HAS-E THREADED

ADHESIVE ANCHORS INTO HOLLOW MASONRY: CONCRETE BLOCK, HOLLOW BRICK AND MULTI-WYTHE BRICK WALL

HILTI HIT HY 70 SYSTEM WITH HILTI HAS-E

THREADED ROD AND APPROPRIATE SCREEN TUBE

DRILLED AND HOLES MAY BE DRY OR WATER SATURATED

- a. ALTERNATIVE ANCHORS MAY BE USED IF APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT'S JURISDICTION VERFIYING THAT PROPOSED ALTERNATIVE ANCHORS WILL PROVIDE THE SAME OR GREATER LOAD CARRYING CAPACITY AS THE SPECIFIED ANCHORS. THE CONTRACTOR SHALL SUBMIT ICC ESR REPORTS. EACH ANCHOR CONFIGURATION SHALL BE EVALUATED AND COMPARED TO THE SPECIFIED ANCHOR.
- b.ALL ANCHORS SHALL ASSUME THE CRACKED CONCRETE DESIGN CONDITION, U.N.O.
- c. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).
- d.THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE. THE STRUCTURAL ENGINEER OF RECORD SHALL RECEIVE DOCUMENTATION VERIFYING THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.
- e.INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPROVED CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR EQUIVALENT. THE ACCEPTABILITY OF CERTIFICATIONS OTHER THAN THE ACI/CRSI ADDHESIVE INSTALLER CERTIFIFICATION WILL BE DETERMINED BY THE STRUCTURAL ENGINEER OF RECORD.
- f. CONCRETE SHALL HAVE ACHIEVED DESIGN STRENGTH PRIOR TO INSTALLING POST-INSTALLED ANCHORS. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE THAT HAS CURED FOR A MINIMUM OF 21 DAYS.
- g.ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
- h.POST-INSTALLED ANCHORS SHALL BE INSTALLED IN A MANNER THAT DOES NOT DAMAGE REINFORCING STEEL. REINFORCING STEEL SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. PLATES AND BRACKETS THROUGH WHICH ANCHORS WILL BE INSTALLED SHALL NOT BE FABRICATED UNTIL AFTER REINFORCING STEEL IS LOCATED AND ANCHOR LOCATIONS ARE ADJUSTED. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER TO OBTAIN ALTERNATIVE ANCHOR LAYOUT WHERE ANCHORS MUST BE RELOCATED TO AVOID INTERFERENCE WITH REINFORCING STEEL.
- i. ADHESIVE ANCHORS SHALL BE INSTALLED WITH A 6" EMBEDMENT DEPTH UNLESS NOTED OTHERWISE. ANCHORS OTHER THAN ADHESIVE ANCHORS SHALL BE INSTALLED WITH AN EMBEMENT DEPTH EQUAL TO THE MAXIMUM EMBEDMENT DEPTH NOTED IN THE MANUFACTURER'S PRODUCT TECHNICAL GUIDE UNLESS NOTED OTHERWISE. WHERE EMBEDMENT DEPTH IS SPECIFIED, THAT DEPTH IS THE REQUIRED FINAL EFFECTIVE MINIMUM EMBEDMENT DEPTH.
- j. POST INSTALLED ANCHORS SHALL BE INSPECTED PERIODICALLY DURING INSTALLATION PER CHAPTER 17 OF IBC____, UNLESS NOTED OTHERWISE.
- k.ADHESIVE ANCHORS INSTALLED IN VERTICAL SURFACES OR IN OVERHEAD OR UPWARDLY INCLINED ORIENTATIONS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION PER ACI 318.
- I. INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR WHO HAS BEEN APPROVED BY THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL VERIFY THAT ALL ANCHORS WERE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE APPLICABLE ICC ESR REPORTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. THE INSPECTION SHALL INCLUDE VERIFICATION OF ANCHOR SPACING, EMBEDMENT AND EDGE DISTANCE REQUIREMENTS.

7. WOOD FRAMING:

a. TIMBER (SAWN LUMBER): ALL SAWN LUMBER SHALL HAVE 19% MAX. MOISTURE CONTENT AND SHALL BE SURFACE DRY IN THE FOLLOWING SPECIES AND GRADES:

FRAMING	SPECIES	GRADE
STUDS	SPRUCE-PINE-FIR	NO. 2
BEAMS, HEADERS & ALL OTHER	HEM-FIR	NO. 2

b. LAMINATED VENEER LUMBER: TRUS JOIST MICROLAM LVL's MANUFACTURED BY WEYERHAEUSER BEAMS: GRADE 1.9; E = 1,900,000 PSI; Fb = 2,600 PSI; Fv = 285 PSI

c. PARALLEL STRAND LUMBER: PARALLAM PSL AS MANUFACTURED BY ILEVEL BY WEYERHAEUSER BEAMS: GRADE 2.0E; E = 2,000,000 PSI; Fb = 2,900 PSI; Fv = 290 PSI COLUMNS: GRADE 1.8E; E = 1,800,000 PSI; Fb = 2,400 PSI; Fv = 190 PSI

d.LAMINATED STRAND LUMBER: TRUS JOIST TIMBERSTRAND LSL'S MANUFACTURED BY WEYERHAEUSER BEAMS/COLUMNS: GRADE 1.3E; E=1,300,000 PSI; Fb=1,700 PSI; Fv=400 PSI

e. PRESERVATIVE TREATED PARALLEL STRAND LUMBER TRUS JOIST PARALLAM PLUS PSL's MANUFACTURED BY WEYERHAEUSER SERVICE LEVEL "SL 2" BEAMS: E = 1,460,000 PSI; Fb = 1827 PSI; Fv = 197 PSI

COLUMNS: E = 1,314,000 PSI; Fb = 1512 PSI; Fv = 120 PSI

f. FLOOR, ROOF AND WALL SHEATHING: APA PERFORMANCE-RATED PANELS FLOOR SHEATHING: 23/32" THK STURD-I-FLOOR, TONGUE & GROOVE EDGES, EXPOSURE 1, 24"OC ROOF SHEATHING: 19/32" THK, EXPOSURE 1, SPAN RATING 40/20

WALL SHEATHING: 15/32" THK, EXPOSURE 1, SPAN RATING 32/16 g. NAILS: ALL NAILS SHALL BE COMMON NAILS, U.N.O.

h. STRUCTURAL CONNECTORS:

STRUCTURAL CONNECTORS FOR WOOD CONSTRUCTION MANUFACTURED BY SIMPSON STRONG-TIE COMPANY.

i. STRUCTURAL GLUED LAMINATED TIMBER: MINIMUM REQUIREMENTS: GRADE 24F-V5, SP/SP; Fbx = 2400 PSI; Fcx = 740 PSI; Fvx = 300 PSI Ex = 1,700,000 PSI; Fc = 1650 PSI; E axial = 1,600,000 PSI

F. CONSTRUCTION:

1. GENERAL:

- a.THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW THE STRUCTURAL CONTRACT DOCUMENTS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS BETWEEN THOSE DOCUMENTS AND ANY SAFETY REGULATIONS. SUCH REVIEW AND NOTIFICATION SHALL OCCUR PRIOR TO PRODUCTION OF SHOP DRAWINGS.
- b. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS, FOR PROTECTING THE COMPLETED STRUCTURAL FRAMING FROM DAMAGE DUE TO TEMPORARY CONSTRUCTION LOADINGS, FOR DETERMINING SEQUENCES OF CONSTRUCTION, AND FOR DETERMINATION, DESIGN AND INSTALLATION OF ALL FALSEWORK, FORMWORK, STAGING, TEMPORARY BRACING, SHEETING AND SHORING NECESSARY FOR CONSTRUCTION.
- c. REPRODUCTION OF THE STRUCTURAL DRAWINGS FOR USE IN PREPARATION OF SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS SO PRODUCED WILL BE REJECTED.
- d. ALL SUBMITTALS, INCLUDING SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

- e. SUBMIT SHOP DRAWINGS 15 BUSINESS DAYS (MINIMUM) PRIOR TO DATE THAT RETURNED SHOP DRAWINGS ARE REQUIRED. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. SCHEDULING OF SUBMITTALS SHALL BE PLANNED SO THAT THE NUMBER OF DRAWINGS REQUIRED TO BE REVIEWED BY THE STRUCTURAL ENGINEER DOES NOT EXCEED THE FOLLOWING:
- REINFORCING STEEL PLACING DRAWINGS: 25 SHEETS PER WEEK STRUCTURAL PRECAST SHOP DRAWINGS: 50 SHEETS PER WEEK
- f. COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR ERRORS WILL BE AT THE CONTRACTOR'S EXPENSE.
- g. CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, LAUNDRY AND FOOD SERVICE DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS.
- h. SEE ARCHITECTURAL DWGS. AND SPECIFICATIONS FOR FINISHES AND FIREPROOFING.
- i. TOPS OF ALL MASONRY PARTITION WALLS SHALL BE CONNECTED TO THE UNDERSIDE OF THE STRUCTURAL FRAMING PER THE DETAILS PROVIDE ON THE STRUCTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL SUCH WALLS.
- j. PROVIDE SLIP CONNECTIONS BETWEEN UNDERSIDE OF FLOOR FRAMING AND TOPS OF ALL PARTITION WALLS THAT CONNECT TO THE UNDERSIDE OF THE STRUCTURAL FRAMING. SLIP CONNECTIONS SHALL PERMIT VERTICAL DIFFERENTIAL DEFLECTION TO OCCUR BETWEEN THE PARTITION WALLS AND STRUCTURAL FRAMING WHILE BRACING THE TOP OF THE WALLS FOR THE CODE SPECIFIED LATERAL LOAD. MAGNITUDE OF ANTICIPATED DIFFERENTIAL DEFLECTION = L/240 (WHERE L= SPAN OF FLOOR FRAMING MEMBER ABOVE.)
- k. VERTICAL SHORTENING OF THE BUILDING DUE TO SHRINKAGE OF THE WOOD FRAMING AND CONSOLIDATION SHALL BE CONSIDERED IN THE DESIGN AND DETAILING OF ALL ARCHITECTURAL SYSTEMS AND COMPONENTS, ALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS AND ALL OTHER BUILDING SYSTEMS INCLUDING ELEVATORS, STAIRS AND FACADE SYSTEMS. ALL SUCH COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND DETAILED TO ACCOMMODATE THE FOLLOWING VERTICAL SHORTENING MOVEMENTS:
 - 2. CUMULATIVE TOTAL SHORTENING AT EACH FLOOR LEVEL 2: 0.5" LEVEL 3: 1" LEVEL 4: 1.5" LEVEL 5: 2"

1. SHORTENING PER FLOOR = 0.5"

- I. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE FOLLOWING ITEMS INCLUDING DESIGN OF THE CONNECTIONS AND EMBEDDED STEEL CONNECTION ELEMENTS (EMBEDS) OF EACH TO THE SUPPORTING STRUCTURAL FRAMING:
 - METAL STAIRS
 - · HANDRAILS AND GUARDRAILS
 - NON-BEARING METAL STUD PARTITION WALLS - CURTAINWALL SYSTEMS
 - FACADE PANELS AND ALL FACADE COMPONENTS
- SAFETY TIE-BACK SYSTEMS
- · WINDOW WASHING DAVITS
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR EACH ITEM. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER(S) WHO SHALL BE REGISTERED IN THE PROJECT'S JURISDICTION. DRAWINGS AND CALCULATIONS SHALL SHOW LOCATIONS AND MAGNITUDES OF LOADS IMPOSED ON STRUCTURE AT THE CONNECTIONS. CONTRACTOR SHALL DESIGN AND FURNISH ALL EMBEDS AND HARDWARE NEEDED FOR CONNECTION OF THESE ITEMS TO THE STRUCTURAL FRAMING. CONNECTIONS TO CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH ACI 318, ASSUMING THAT ANCHOR REINFORCEMENT AND SUPPLEMENTARY REINFORCING STEEL NOT PRESENT. EMBEDS SHALL BE DESIGNED AND DETAILED TO AVOID INTERFERENCE WITH REINFORCING STEEL AND OTHER ITEMS IN THE CONCRETE. IF INTERFERENCES BETWEEN EMBEDS AND ITEMS IN THE CONCRETE OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL NEITHER ALTER THE EMBEDS NOR MOVE ANYTHING IN THE CONCRETE UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER OF RECORD.
- m. DESIGN FRAMING MEMBERS IN COMMUNICATING STAIRS AND MONUMENTAL STAIRS TO LIMIT LIVE LOAD DEFLECTION TO THE SMALLER OF L/600 OR 1/4". SIZE STAIR FRAMING MEMBERS TO PROVIDE A STAIR ASSEMBLY WITH A NATURAL FREQUENCY > 5 HERTZ AND PEAK ACCELERATION, ap/g LESS THAN OR EQUAL TO 0.015 AS COMPUTED PER AISC DESIGN GUIDE 11 EQUATION 2.3 USING INDOOR FOOTBRIDGE CRITERIA.
- n. DESIGN AND DETAILING OF THE FACADE SYSTEM AND FACADE SYSTEM CONNECTIONS TO THE STRUCTURE SHALL TAKE INTO CONSIDERATION THE FOLLOWING MOVEMENTS:
 - 1.±1/2" VERTICAL DIFFERENTIAL DEFLECTION OF SLAB EDGES
 - ON ADJACENT FLOORS 2. ±1/2" HORIZONTAL DIFFERENTIAL DEFLECTION BETWEEN
 - ADJACENT FLOORS IN ANY DIRECTION. 3. DIFFERENTIAL THERMAL EXPANSION / CONTRACTION BETWEEN
- FACADE SYSTEM AND SUPPORTING PRIMARY STRUCTURAL SYSTEM. o. THE FACADE SHALL NOT BE INSTALLED UNTIL AFTER THE SUPERSTRUCTURE HAS BEEN PLUMBED, ALL FRAMING CONNECTIONS HAVE BEEN INSTALLED AND ALL

THAT FACADE GRAVITY LOAD CONNECTIONS MAY BE MADE TO THE GIRTS.

- SHORES AND RESHORES HAVE BEEN REMOVED. p. WHERE STRUCTURAL STEEL HORIZONTAL GIRTS ARE PROVIDED, THOSE GIRTS MAY BE USED ONLY TO RESIST LATERAL LOADS FROM THE FACADE. VERTICAL LOADS MAY NOT BE IMPOSED BY THE FACADE UPON THE GIRT FRAMING UNLESS THE SECTIONS AND DETAILS ON THE STRUCTURAL DRAWINGS SPECIFICALLY INDICATE
- q. DESIGN, DETAILING, FABRICATION AND INSTALLATION OF BRACKETS, STRUTS, CLIPS AND OTHER CONNECTORS REQUIRED FOR ATTACHMENT OF ELEVATOR GUIDE RAILS TO THE STRUCTURE IS THE RESPONSIBILITY OF THE ELEVATOR MANUFACTURER.
- r. IF DIFFERENCES OCCUR WITHIN OR BETWEEN THE DRAWINGS AND SPECIFICATIONS REGARDING MATERIALS, SIZES, STRENGTHS OR QUANTITIES, THEN THE BETTER MATERIAL, HIGHER STRENGTH, LARGER SIZE AND GREATER QUANTITY INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.
- s. CONTRACTOR SHALL SUBMIT A SINGLE DIMENSIONED AND COORDINATED DRAWING FOR EACH LEVEL SHOWING THE LOCATIONS OF THE FOLLOWING:
 - SLAB OPENINGS
- SLEEVES (CAST IN PLACE & POST-INSTALLED FIELD CORED SLEEVES) EMBEDDED PLATES AND ALL OTHER EMBEDS - SLAB EMBEDDED ELECTRICAL CABLE AND CONDUIT
- t. CONTRACTOR SHALL SUBMIT FOR REVIEW DIMENSIONED AND COORDINATED DRAWINGS FOR EACH LEVEL SHOWING THE LOCATIONS, CONNECTION DETAILS AND MAGNITUDES OF LOADS IMPOSED ONTO THE PRIMARY STRUCTURAL SYSTEM FROM PIPE SUPPORTS AND SUSPENDED MECHANICAL AND ELECTRICAL LOADS EXCEEDING 500 POUNDS.
- u. PROVIDE TEMPORARY BLOCKOUTS AND TEMPORARY OPENINGS IN THE STRUCTURE AS REOUIRED TO PERMIT INSTALLATION OF ALL WORK, BLOCKOUTS AND TEMPORARY OPENINGS SHALL BE LOCATED, CONFIGURED, DETAILED AND INFILLED IN A MANNERTHAT ALTERS NEITHER THE STRENGTH OF THE STRUCTURAL FRAMING NOR THE STRENGTH OF THE CONNECTIONS. INFILL ALL BLOCKOUTS AND TEMPORARY OPENINGS USING THE MATERIALS SPECIFIED FOR THE FRAMING AT THE LOCATIONS WHERE THE BLOCKOUTS AND OPENINGS OCCUR. SUBMIT DRAWINGS INDICATING THE LOCATIONS, DIMENSIONS AND DETAILS OF ALL PROPOSED BLOCKOUTS AND OPENINGS AND DETAILS INDICATING THE MANNER IN WHICH THE BLOCKOUTS AND OPENINGS WILL BE INFILLED.
- v. THE EXACT WEIGHTS, DIMENSIONS AND LOCATIONS OF ALL MECHANICAL UNITS SUPPORTED ON STRUCTURAL STEEL FRAMING SHALL BE DETERMINED AND COORDINATED BY THE CONTRACTOR PRIOR TO DETAILING THE STRUCTURAL STEEL FRAMING SUPPORTING THOSE UNITS. IF THE UNIT WEIGHTS ARE GREATER THAN THE WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO DETAILING THE STRUCTURAL STEEL UNIT WEIGHTS, DIMENSIONS AND LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE ONLY AND SHALL NOT BE USED FOR DETAILING THE STRUCTURAL STEEL.

- W. ELEVATOR SLAB OPENING DIMENSIONS, PIT DEPTHS, LOCATIONS OF STRUCTURAL FRAMING, OVERHEAD CLEARANCES AND MACHINERY SUPPORT REQUIREMENTS RELATED TO THE ELEVATORS SHALL BE VERIFIED AND COORDINATED BY THE CONTRACTOR PRIOR TO AWARDING CONTRACTS FOR STRUCTURAL STEEL AND CAST-IN-PLACE CONCRETE. INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS BASED ON INFORMATION AVAILABLE DURING DESIGN AND MAY VARY FROM REQUIREMENTS FOR ELEVATORS PURCHASED. FRAMING, DIMENSIONS, AND DETAILS MAY REQUIRE REVISIONS. COSTS ASSOCIATED SUCH REVISIONS SHALL BE INCLUDED IN BID PRICE.
- x. DIMENSIONS MAY NOT BE SCALED FROM THE DRAWINGS.
- y. ALL CONSTRUCTION IS NEW UNLESS IDENTIFIED AS EXISTING "(E)". THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION AND SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT UNLESS INDICATED OTHERWISE, NEW SLABS ARE TO BE AT THE SAME ELEVATIONS AS ADJACENT EXISTING SLABS. FOUNDATION ELEVATIONS OR COLUMN LENGTHS SHALL BE ADJUSTED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER TO ACHIEVE MATCHING SLAB ELEVATIONS.
- z. TYPICAL DETAILS ARE SHOWN ON THE STRUCTURAL DRAWINGS ON SHEETS TITLED "TYPICAL DETAILS". THE TYPICAL DETAILS INDICATE STRUCTURAL REQUIREMENTS OCCURRING THROUGHOUT THE STRUCTURE AT LOCATIONS IDENTIFIED BY THE DETAIL TITLES. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THESE DETAILS, PROVIDING AND INSTALLING THE INDICATED STRUCTURAL ELEMENTS AND COMPONENTS INDICATED IN THE DETAILS, AND CONFORMING TO ALL OTHER REQUIREMENTS INDICATED ON THE DETAILS AT ALL LOCATIONS WHERE THE DETAILS APPLY.
- aa. INFORMATION SHOWN ON THE SECTIONS AND DETAILS IS THAT WHICH IS REQUIRED TO CONVEY THE PURPOSE FOR WHICH THE SECTIONS AND DETAILS WERE PROVIDED. THE CONTRACTOR IS RESPONSIBLE FOR REFERRING ELSEWHERE ON THE CONTRACT DOCUMENTS FOR ALL OTHER INFORMATION WHICH MAY BE OCCURRING IN THE SECTIONS OR DETAILS, BUT WHICH IS NOT SHOWN.
- ab. FACADES, PAVEMENT SLABS, DRAINS, CURBS AND OTHER NON-STRUCTURAL ELEMENTS INDICATED ON THE STRUCTURAL DRAWINGS ARE SHOWN FOR GENERAL INFORMATION ONLY. REFER ELSEWHERE FOR ALL INFORMATION DETAILS, DIMENSIONS, LOCATIONS AND GEOMETRY OF NON-STRUCTURAL ELEMENTS, AND THE ATTACHMENT OF THOSE ELEMENTS TO THE STRUCTURAL FRAMING.
- ac. REFER TO THE ARCHITECTURAL DRAWINGS FOR TOP OF WALL ELEVATIONS FOR ALL WALLS WHERE TOP OF WALL ELEVATIONS ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS.
- ad. COORDINATE FLOOR FINISH INCLUDING BUT NOT LIMITED TO "FLATNESS" AND "LEVELNESS" REQUIREMENTS WITH THE FLOOR FINISH CONTRACTOR. PROVIDE UNDERLAYMENT/TOPPING WHERE REQUIRED TO PROVIDE A SURFACE ACCEPTABLE FOR INSTALLATION OF FLOOR FINISHES. REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ae. THE STRUCTURAL FRAMING WAS DESIGNED TO LIMIT THE DEFLECTION OF STRUCTURAL MEMBERS TO LESS THAN THE MAXIMUM PERMITTED DEFLECTIONS LISTED IN THE BUILDING CODE. THE CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES TO ACCOMMODATE THESE DEFLECTIONS AND TO ACCOMMODATE CONSTRUCTION TOLERANCES.
- 2. STABILITY DURING CONSTRUCTION
- a.LATERAL STRENGTH AND STABILITY OF THE COMPLETED STRUCTURE IS PROVIDED BY THE FOLLOWING STRUCTURAL SYSTEM:
- LATERAL LOADS ARE RESISTED BY, AND LATERAL STABILITY OF THE STRUCTURE IS PROVIDED BY CONCRETE MOMENT FRAMES; FLOOR SLABS ARE DESIGNED AS HORIZONTAL DIAPHRAGMS TO COLLECT AND TRANSFER LATERAL LOADS TO AND BETWEEN MOMENT FRAMES AND TO BRACE ALL COLUMNS CONNECTED TO THE
- b. THE CONTRACTOR SHALL DETERMINE, FURNISH AND INSTALL TEMPORARY BRACING REQUIRED TO PROVIDE AND MAINTAIN LATERAL STABILITY OF THE STRUCTURE UNTIL COMPLETION OF CONSTRUCTION OF ALL COMPONENTS OF THE LATERAL- LOAD-RESISTING SYSTEM.
- 3. INSPECTION AND TESTING:
- a. THE OWNER WILL ENGAGE A TESTING AGENCY TO PROVIDE SERVICES AS INDICATED BELOW AND SUBMIT REPORTS.
- b. CAST-IN-PLACE CONCRETE:
- 1.THE AGENCY SHALL INSPECT THE FORMWORK AND REINFORCING STEEL PLACEMENT FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS.
- 2. THE AGENCY SHALL MONITOR PLACEMENT OF ALL CONCRETE TO VERIFY COMPLIANCE WITH ALL APPLICABLE ACI REQUIREMENTS.
- 3. THE AGENCY SHALL SAMPLE CONCRETE IN ACCORDANCE WITH ASTM C172 AND SHALL MOLD TEST CYLINDERS IN ACCORDANCE WITH ASTM C31.
- 4. THE FOLLOWING SETS OF TEST CYLINDERS SHALL BE MADE FOR EACH DAY'S POUR OR FOR EACH 50 CUBIC YARDS OF CONCRETE PLACED (WHICHEVER YIELDS THE LARGER NUMBER OF TEST CYLINDERS.):
- 2 SETS @ 7 DAYS, ONE SET LAB CURED, ONE SET FIELD CURED. 2 SETS @ 28 DAYS, ONE SET LAB CURED, ONE SET FIELD CURED.
- 5. THE AGENCY SHALL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE AT THE CONTRACTOR'S EXPENSE WHEN TEST RESULTS INDICATE SPECIFIED CONCRETE STRENGTHS HAVE NOT BEEN ATTAINED, AS DIRECTED BY THE STRUCTURAL ENGINEER.

G. FOUNDATIONS & STRUCTURAL EARTHWORK:

- GENERAL:
- a.REFER TO THE SPECIFICATIONS AND GEOTECHNICAL REPORT FOR REQUIREMENTS FOR EXCAVATION, FOR PREPARATION OF THE SUBGRADE BELOW THE FOUNDATIONS AND SLABS-ON-GRADE, FOR SUB-BASE REQUIREMENTS BELOW SLABS-ON-GRADE, FOR COMPACTION PROCEDURES AND FOR ALL OTHER GEOTECHNICAL REQUIREMENTS NOT SPECIFICALLY DELINEATED ON THE STRUCTURAL DRAWINGS. THE GEOTECHNICAL REPORT AND THE REQUIREMENTS CONTAINED THEREIN SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.
- b. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM AS SHOWN PRIOR TO STARTING
- c. FOUNDATIONS SHALL BE PLACED ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. WHERE FOUNDATIONS BEAR ON ROCK, FOUNDATIONS SHALL BEAR ON THAT ROCK OR ON LEAN CONCRETE FILL. BEARING ELEVATIONS ARE ESTIMATED FROM SOIL BORING DATA INDICATED IN THE GEOTECHNICAL REPORT. DETERMINATION OF FINAL BEARING ELEVATIONS AND FIELD VERIFICATION OF ALLOWABLE BEARING PRESSURE SHALL BE MADE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER PRIORTO PLACING FOUNDATIONS.
- d. CONCRETE FOR FOUNDATIONS SHALL BE POURED ON THE SAME DAY SUBGRADE APPROVAL IS GIVEN BY THE GEOTECHNICAL ENGINEER.
- e. ALL FOUNDATIONS SHALL BEAR A MINIMUM OF 3'-0" BELOW GRADE. IN CASE OF CONFLICT, NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IN ADVANCE OF ANY CONSTRUCTION TO ALLOW FOR ADJUSTMENT.
- f. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEER'S APPROVAL. BELOW GRADE UTILITY OR PIPE ELEVATIONS, WHERE SHOWN, ARE INDICATED FOR REFERENCE ONLY. REQUIRED ELEVATIONS SHALL BE DETERMINED BY OTHERS AND COORDINATED WITH THE FOUNDATIONS.
- EXCEED 45 DEGREES WITH THE HORIZONTAL, UNLESS INDICATED OTHERWISE IN THE GEOTECHNICAL REPORT. h. PROVIDE CONTINUOUS WATERSTOPS IN ALL HORIZONTAL AND VERTICAL

g. THE SLOPE BETWEEN THE LOWER EDGES OF ADJACENT FOOTINGS SHALL NOT

RETAINING SOIL ON ONE SIDE AND WITH OCCUPIED SPACE ON THE OTHER. i. SHEETING, SHORING AND DEWATERING IS THE RESPONSIBILITY OF THE CONTRACTOR; SHEETING AND SHORING SHALL BE DESIGNED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER WHO SHALL BE REGISTERED IN THE

THAT ENGINEER.

CONSTRUCTION JOINTS IN BELOW GRADE PIT WALLS AND IN CONCRETE WALLS

PROJECT'S JURISDICTION; ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY

- j. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL EXISTING STRUCTURES, CURBS, STREETS, ETC. FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THE CONTRACTOR SHALL NOT DISPOSE OF ANY LIQUIDS, SLURRY, SPOILS OR CHEMICALS ON THE SITE EXCEPT AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL RESOURCES OR OTHER AGENCIES HAVING JURISDICTION.
- k. NEW FOOTING BEARING ELEVATIONS SHALL MATCH ADJACENT EXISTING FOOTING BEARING ELEVATIONS WHERE APPLICABLE UNLESS INDICATED OTHERWISE ON
- 2. DRILLED PIERS (CAISSONS):
- a.ACTUAL BEARING CAPACITY SHALL BE VERIFIED BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER BEFORE PLACING CONCRETE. SEE SPECIFICATIONS FOR DETAILS.
- b. PIERS SHALL BE DRILLED IN PLACE AND FILLED WITH CONCRETE. THE BED AND SHAFT SHALL BE LEVELED AND CLEARED OF ALL LOOSE MATERIAL BEFORE THE CONCRETE IS PLACED. THE SHAFT SHALL BE KEPT FREE OF WATER.
- 3. STRUCTURAL FILL:
- a.REFER TO SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS FOR COMPACTED STRUCTURAL FILL. REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THIS WORK. INSPECTION OF THE PLACEMENT OF COMPACTED STRUCTURAL FILL SHALL BE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER.

H. CONCRETE:

- 1. CAST-IN-PLACE CONCRETE:
- a. REINFORCING STEEL PLACING DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". THE PLACING DRAWINGS SHALL SHOW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE THE REINFORCING STEEL
- THE SPACING OF ALL REINFORCING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL DETAILER AND MUST BE INDICATED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE USED TO CLEARLY INDICATE THE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO BE INSTALLED.
- A LIST OF ALL APPLICABLE REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW SUFFICIENT INFORMATION NEEDED TO PLACE THE REINFORCING STEEL WILL BE REJECTED.
- b. REINFORCING STEEL SHALL BE DETAILED AND INSTALLED TO HAVE THE FOLLOWING CONCRETE CLEAR COVER DIMENSIONS, UNLESS NOTED OTHERWISE:

REINF. STEEL IN CONCRETE CAST AGAINST SOIL	3"
REINF. STEEL IN CONCRETE EXPOSED TO SOIL OR WEATHER #5 BARS AND SMALLER #6 BARS AND LARGER	1 1/2" 2"
SLAB AND WALL REINF. NOT EXPOSED TO SOIL OR WEATHER	3/4"
TOP REINF. IN PARKING LEVEL SLABS	1 1/2"
BOTTOM REINF. IN PARKING LEVEL SLABS	1"

c. SPLICES IN REINFORCING STEEL SHALL BE MADE ONLY AT THOSE LOCATIONS WHERE SPLICES ARE SHOWN ON THE STRUCTURAL DRAWINGS AND AT THOSE LOCATIONS WHERE SPLICES HAVE BEEN DETAILED ON THE REINFORCING STEEL PLACING DRAWINGS THAT HAVE BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES (SEE TABLES 1 & 2 BELOW), EXCEPT WHERE INDICATED OTHERWISE ON THE STRUCTURAL DRAWINGS. MECHANICAL SPLICE COUPLERS CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF THE REINFORCING STEEL MAY BE USED INSTEAD OF TENSION LAP SPLICES AT THE CONTRACTOR'S OPTION AT ANY LOCATION. COMPRESSION LAP SPLICES PER TABLE 3 MAY BE USED ONLY AT THOSE LOCATIONS WHERE SUCH SPLICES ARE SPECIFICALLY INDICATED. STAGGER SPLICES WHERE REQUIRED TO PROVIDE 1 1/2" CLEAR SPACING BETWEEN REINFORCING STEEL AT SPLICE LOCATIONS.

TABLE 1 - CLASS "B" TENSION LAP SPLICE LENGTHS (SEE NOTES BELOW)

REINF.	DAD	DAD			CONCR	RETE STR	ENGTH			
STEEL Fy	SIZE	I DAK	BAR LOCATION	3 ksi	4 ksi	5 ksi	6 ksi	7 ksi	8 ksi	9 ksi
	".5	TOP BARS	2'-4"	2'-0"	1'-9"	1'-8"	1'-6"	1'-5"	1'-4"	
	#3	OTHER BARS	1'-9"	1'-6"	1'-5"	1'-4"	1'-4"	1'-4"	1'-4"	
		TOP BARS	3'-1"	2'-8"	2'-5"	2'-2"	2'-0"	1'-11"	1'-9"	
	#4	OTHER BARS	2'-4"	2'-1"	1'-10"	1'-8"	1'-7"	1'-5"	1'-4"	
	#5	TOP BARS	3'-10"	3'-4"	3'-0"	2'-9"	2'-6"	2'-4"	2'-3"	
		OTHER BARS	3'-0"	2'-7"	2'-4"	2'-1"	1'-11"	1'-10"	1'-9"	
	#6	TOP BARS	4'-8"	4'-0"	3'-7"	3'-3"	3'-0"	2'-10"	2'-8"	
		OTHER BARS	3'-7"	3'-1"	2'-9"	2'-6"	2'-4"	2'-2"	2'-1"	
60.1/07	KSI #7	TOP BARS	6'-9"	5'-10"	5'-3"	4'-9"	4'-5"	4'-2"	3'-11	
60 KSI		OTHER BARS	5'-2"	4'-6"	4'-0"	3'-8"	3'-5"	3'-2"	3'-0"	
	".0	TOP BARS	7'-9"	6'-8"	6'-0"	5'-5"	5'-1"	4'-9"	4'-5"	
	#8	OTHER BARS	5'-11"	5'-2"	4'-7"	4'-2"	3'-11"	3'-8"	3'-5"	
	".0	TOP BARS	8'-8"	7'-6"	6'-9"	6'-2"	5'-8"	5'-4"	5'-0"	
	#9	OTHER BARS	6'-8"	5'-10"	5'-2"	4'-9"	4'-5"	4'-1"	3'-10	
		TOP BARS	9'-10"	8'-6"	7'-7"	6'-11"	6'-5"	6'-0"	5'-8"	
	#10	OTHER BARS	7'-6"	6'-6"	5'-10"	5'-4"	4'-11"	4'-7"	4'-4"	

NOTES: 1. SPLICE LENGTHS SHOWN IN TABLE ABOVE ARE APPLICABLE FOR SPLICES

- OCCURRING UNDER THE FOLLOWING CONDITIONS:
- GRADE 60 REINFORCING STEEL (U.N.O.)
- NORMAL WEIGHT CONCRETE - MINIMUM BAR SPACING REQUIREMENTS:
- CLEAR SPACING BETWEEN BARS AT SPLICE LOCATION ≥ BAR DIA. AND CLEAR COVER TO BARS \geq BAR DIA. AND TIES OR STIRRUPS
- OCCURRING PER CODE SPACING WITHIN LENGTH OF SPLICE - CLEAR SPACING BETWEEN BARS AT SPLICE \geq 2 x BAR DIA. AND CLEAR COVER \geq BAR DIA.
- 2. INDICATED SPLICE LENGTHS SHALL BE INCREASED BY THE FOLLOWING FACTORS WHERE THE FOLLOWING CONDITIONS OCCUR:

CONDITION	SPLICE LENGTH MULTIPLIER
BAR SPACING OR CLEAR COVER LESS THAN REQUIRED PER NOTE #1	1.5
LIGHTWEIGHT CONCRETE	1.3
EPOXY COATED REINF. W/ COVER < 3xBAR DIA OR CLEAR SPACING < 6xBAR DIA	1.5
ALL OTHER EPOXY COATED BARS	1.2

*WHERE MULTIPLE CONDITIONS OCCUR, APPLY EACH OF THE APPLICABLE FACTORS TO THE BASIC TENSION LAP SPLICE LENGTHS TO OBTAIN THE REQUIRED SPLICE LENGTH.

3. "TOP BARS" ARE HORIZONTAL BARS LOCATED WHERE MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BARS. 4. LAP SPLICES IN COLUMN VERTICAL REINFORCING STEEL SHALL BE PER TABLE 2 (BELOW) PROVIDED THAT THE CENTER-TO-CENTER SPACING OF ALL ADJACENT VERTICAL BARS WITHIN THE COLUMN LAP SPLICE LENGTH IS NO CLOSER THAN 5"; OTHERWISE PROVIDE LAP SPLICE LENGTHS PER TABLE 1.

CONCRETE STRENGTH

TABLE 2 - COLUMN VERTICAL REINFORCING STEEL CLASS "B" TENSION LAP SPLICE LENGTHS (SEE NOTE #4 ABOVE)

REINF. DAD	CONCRETE STRENGTH						
STEEL Fy	BAR SIZE	4 ksi	5 ksi	6 ksi	7 ksi	8 ksi	9 ksi
	#5	1'-7"	1'-5"	1'-4"	1'-4"	1'-4"	1'-4"
	#6	1'-10"	1'-8"	1'-6"	1'-5"	1'-4"	1'-4"
	#7	2'-8"	2'-5"	2'-2"	2'-0"	1'-11"	1'-10"
60 KSI	#8	3'-1"	2'-9"	2'-6"	2'-4"	2'-2"	2'-1"
	#9	3'-9"	3'-4"	3'-0"	2'-10"	2'-8"	2'-6"
	#10	4'-6"	4'-1"	3'-8"	3'-6"	3'-2"	3'-0"

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Z TRUE

SCALE: 12" = 1'-0"

DATE

REINF. STEEL Fy	BAR SIZE	COMPRESSION LA
	#5	1'-7"
	#6	1'-11"
	#7	2'-2"
60 KSI	#8	2'-6"
	#9	2'-10"
	#10	3'-2"
	•	

- d. ALL HOOKS IN REINFORCING STEEL SHALL BE STANDARD 90 DEGREE HOOKS, U.N.O.
- e. ALL HOOKS ON #5 AND SMALLER TOP REINFORCING STEEL IN SLABS SHALL BE STANDARD 90 DEGREE STIRRUP HOOKS; A CONTINUOUS PERPENDICULAR TOP BAR (#4 MINIMUM) SHALL BE INSTALLED INSIDE THE CORNERS OF ALL HOOKED BARS.
- f. REINFORCING STEEL SHALL BE INSTALLED TO WITHIN THE FOLLOWING TOLERANCES *:

ITEM FOR WHICH TOLERANCE IS BEING MEASURED:	PERMITTED TOLERANCE
CONCRETE COVER FOR SLAB TOP AND BOTTOM BARS	±1/4"
COVER FOR OTHER REINFORCING STEEL	±3/8"
SPECIFIED SPACING BETWEEN PARALLEL BARS IN SLABS	± (SPECIFIED SPACING/4") BUT NOT TO EXCEED 1"
HORIZONTAL DEVIATION FROM SPECIFIED LOCATION, U.N.O.	±3"
SPACING AND LOCATION OF BEAM STIRRUPS	± (BEAM DEPTH IN INCHES/12) x 1"
SPACING AND LOCATION OF COLUMN TIES	± (MIN. COL. DIM. IN INCHES/12) x 1'
LOCATION OF ENDS OF BARS PERPENDICULAR TO SLAB EDGES	±1"

- * INDICATED TOLERANCES ARE PER ACI 117, "STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS
- THE ABOVE LIST OF PERMITTED TOLERANCES MUST BE PROVIDED ON ALL REINFORCING STEEL PLACING DRAWINGS AND ON ALL POST-TENSIONED TENDON PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT PROVIDE THIS LIST OF TOLERANCES WILL BE REJECTED.
- g. DRAWINGS SHALL BE SUBMITTED FOR REVIEW SHOWING PROPOSED LOCATIONS AND DIMENSIONS OF ALL SLEEVES AND OPENINGS IN CAST-IN-PLACE CONCRETE SLABS, BEAMS, WALLS, COLUMNS AND FOUNDATIONS; THESE DRAWINGS SHALL BE COORDINATED BETWEEN ALL TRADES AND SHALL INCLUDE SLEEVES AND OPENINGS REQUIRED BY ALL CONTRACTORS. SLEEVES AND OPENINGS THROUGH CAST-IN-PLACE CONCRETE FRAMING IS PROHIBITED EXCEPT WHERE THOSE SLEEVES AND OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS OR WHERE THEY ARE SHOWN ON THE SLEEVE AND OPENING DRAWINGS THAT HAVE BEEN SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.
- h.SLEEVES, OPENINGS AND OTHER PENETRATIONS THROUGH CAST-IN-PLACE CONCRETE FRAMING SHALL BE CAST INTO THE CONCRETE; SAW CUTTING, CORING OR DRILLING OF SLEEVES OR OPENINGS THROUGH PREVIOUSLY CAST CONCRETE IS NOT PERMITTED EXCEPT WHERE SPECIFICALLY REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.
- i. POST-INSTALLED ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S REQUIREMENTS; PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGING REINFORCING STEEL WHEN DRILLING BOLT HOLES.
- j. ALL FORMWORK, SHORING AND RESHORING SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. ALL SUBMISSIONS SHALL BEAR HIS SEAL AND SIGNATURE.
- k. CHAMFER ALL EXPOSED CONCRETE CORNERS, 3/4" x 3/4" MINIMUM, UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
- I. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS AND DETAILS OF ALL ARCHITECTURAL FEATURES IN THE CONCRETE; REFER TO THE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR ALL CONCRETE FINISHES.
- m. FORMED CAST-IN-PLACE CONCRETE SLABS SHALL BE CONSTRUCTED FLAT, LEVEL AND WITHIN TOLERANCE TO THE ELEVATIONS INDICATED ON THE DRAWINGS. PROVIDE AND PLACE ADDITIONAL CONCRETE AS REQUIRED TO COMPENSATE FOR FORMWORK AND FRAMING DEFLECTIONS AND TO ACHIEVE THE REQUIRED FINISHED TOP OF SLAB ELEVATIONS.
- n. CONSTRUCTION JOINTS CAST-IN-PLACE CONCRETE SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN. PROPOSED CONSTRUCTION JOINT LOCATIONS SHALL BE SHOWN ON REINFORCING STEEL PLACING DRAWINGS. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. ALL REINFORCING IS TO BE CONTINUOUS THROUGH JOINTS, UNO.
- o. HORIZONTAL CONSTRUCTION JOINTS THROUGH CAST-IN-PLACE CONCRETE FRAMING ARE NOT PERMITTED EXCEPT WHERE SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS.
- p. HORIZONTAL CONSTRUCTION JOINTS AND ALL OTHER JOINTS BETWEEN ABUTTING AND PREVIOUSLY POURED CONCRETE ELEMENTS SHALL BE ROUGH JOINTS, UNO.
- q. "ROUGH JOINTS" ARE JOINTS WHICH SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND SHALL BE CLEAN AND FREE OF LAITANCE.
- r. WELDED WIRE REINFORCEMENT (WWR) SHALL BE SUPPLIED IN SHEETS. LAP TWO FULL MESH LENGTHS AT SPLICES AND WIRE TOGETHER.
- s. WELDING OF REINFORCING STEEL IS NOT PERMITTED.
- t. EMBEDMENT OF ALUMINUM IN CONCRETE IS NOT PERMITTED EXCEPT AT LOCATIONS SPECIFIED OR INDICATED ON THE ARCHITECTURAL DRAWINGS. ALUMINUM EMBEDDED IN CONCRETE SHALL BE COATED TO PREVENT DIRECT CONTACT WITH THE CONCRETE. DETAILS AND MATERIAL INFORMATION FOR THE COATING MATERIAL SHALL BE SUBMITTED FOR REVIEW.
- u. PROVIDE SPACERS, BOLSTERS, SUPPORT CHAIRS AND SUPPORT BARS AS REQUIRED TO SUPPORT REINFORCING STEEL; PROVIDE PLASTIC-TIPPED CHAIRS AND BOLSTERS WHERE UNDERSIDES OF SLABS ARE EXPOSED TO VIEW.
- v. INSTALLATION OF ELECTRICAL CABLE, CONDUIT AND PIPING IN OR THROUGH CONCRETE COLUMNS AND WALLS IS PROHIBITED UNLESS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF PIPING IN CAST-IN-PLACE CONCRETE IS PROHIBITED UNLESS APPROVED BY STRUCTURAL ENGINEER PRIOR TO INSTALLATION. DRAWINGS SHALL BE SUBMITTED FOR REVIEW SHOWING PROPOSED PLACEMENT OF ELECTRICAL CABLE AND CONDUIT IN SLABS. THOSE DRAWINGS SHALL SHOW SIZES AND DIMENSIONED LOCATIONS OF ALL CABLE AND CONDUIT.
- w. CONTRACTOR SHALL PROTECT CONCRETE THAT IS NOT AIR ENTRAINED BUT WHICH IS EXPOSED TO WEATHER DURING CONSTRUCTION FROM FREEZE THAW DAMAGE UNTIL SUCH TIME AS THE CONCRETE IS NO LONGER EXPOSED TO FREEZE/THAW CONDITIONS.

2. STRUCTURAL PRECAST CONCRETE:

a. GENERAL:

- 1. DESIGN OF THE PRECAST SYSTEM IS THE RESPONSIBILITY OF THE PRECAST MANUFACTURER'S ENGINEER WHO SHALL BE REGISTERED IN THE PROJECT'S JURISDICTION. ALL SHOP DRAWINGS, ERECTION DRAWINGS AND DESIGN CALCULATIONS SHALL BE SIGNED AND SEALED BY THIS ENGINEER AND SHALL BE SUBMITTED FOR REVIEW.
- 2. THE PRECAST SYSTEM SHALL BE DESIGNED FOR THE LOADS INDICATED ON THIS DRAWING AND FOR THE LOADS AND LOAD COMBINATIONS MANDATED IN THE BUILDING CODE. DESIGN OF THE PRECAST SYSTEM SHALL BE IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS AND STANDARDS OF ACI AND PCI.
- 3. CALCULATIONS AND SHOP DRAWINGS SHALL SHOW A COMPLETE AND RATIONAL LOAD PATH AND SHALL CLEARLY INDICATE THE REACTIONS IMPOSED ON THE SUPPORTING STRUCTURAL SYSTEM AND/OR FOUNDATION SYSTEM. REVIEW OF THE PRECAST SHOP DRAWINGS AND CALCULATIONS BY THE STRUCTURAL ENGINEER WILL BE SOLELY FOR THE PURPOSE OF REVIEWING THE IMPACT OF THESE LOADS UPON THE SUPPORTING STRUCTURAL SYSTEM AND/OR FOUNDATION.
- 4. REINFORCING STEEL, CONCRETE COMPRESSIVE STRENGTHS, GROUT STRENGTHS, AND CONNECTION DETAILS SHOWN ON THE CONTRACT DOCUMENTS FOR PRECAST CONCRETE FRAMING ARE MINIMUM PERMITTED REQUIREMENTS. DETERMINATION OF THE ACTUAL REQUIRED REINFORCING STEEL QUANTITIES AND CONFIGURATIONS, CONCRETE AND GROUT COMPRESSIVE STRENGTHS, AND CONNECTION DETAILS SHALL BE DETERMINED BY THE PRECAST MANUFACTURER'S ENGINEER.
- 5. PRECAST MANUFACTURER SHALL COORDINATE LOCATIONS OF ELECTRICAL CONDUIT, JUNCTION BOXES AND OPENINGS IN PRECAST FOR PASSAGE OF CONDUIT, PIPE AND OTHER UTILITIES.
- 6. PRECAST MANUFACTURER SHALL COORDINATE LOCATIONS OF INSERTS, EMBEDMENTS AND ANCHORS FOR ATTACHMENT OF EQUIPMENT AND ARCHITECTURAL ELEMENTS.
- 7. DIMENSIONS OF ALL STRUCTURAL PRECAST FRAMING MEMBERS SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS.
- 8. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS AND DETAILS OF ALL ARCHITECTURAL FEATURES IN THE PRECAST; REFER TO THE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR ALL CONCRETE FINISHES.
- 9. PATCH ALL LOW AREAS OF PRECAST FLOOR AND ROOF FRAMING AS REQUIRED TO PRODUCE A FLAT SURFACE ACCEPTABLE TO THE ARCHITECT AND OWNER. SUBMIT PROPOSED PATCHING PROCEDURE FOR REVIEW PRIOR TO START OF WORK.

I. STRUCTURAL STEEL:

GENERAL:

- a.THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
- b. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE - STEEL", ANSI/AWS D1.1 AND AISC REQUIREMENTS; STRUCTURAL STEEL THAT IS DAMAGED DURING WELDING SHALL BE REPLACED OR REPAIRED IN A MANNER THAT IS ACCEPTABLE TO THE STRUCTURAL ENGINEER.
- c. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS OUALIFICATION TESTS. THE ENGINEER MAY REOUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.
- d. GAS CUTTING TORCHES SHALL NOT BE USED TO CORRECT FABRICATION ERRORS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- e. ALL STEEL INDICATED TO BE GALVANIZED SHALL BE HOT-DIP GALVANIZED. "GALV" INDICATES HOT-DIP GALVANIZED STEEL. BOLTS CONNECTING GALVANIZED FRAMING SHALL BE HOT-DIP GALVANIZED. OTHER STEEL ELEMENTS BOLTED OR WELDED TO GALVANIZED FRAMING SHALL BE HOT-DIP GALVANIZED.
- f. ALL STRUCTURAL STEEL (INCLUDING BOLTS AND OTHER HARDWARE) EXPOSED TO WEATHER OR LOCATED IN UNHEATED SPACES SHALL BE HOT DIP GALVANIZED.
- q. ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY APPLYING AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH THE REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL CONTAIN 95% ZINC BY WEIGHT. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NO LESS THAN THE COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- h. ALL STRUCTURAL STEEL INCLUDING BOLTS AND OTHER HARDWARE THAT IS SUBJECT TO WETTING WITH SALT-LADEN WATER OR OTHER MILD CHEMICAL ATTACK (SUCH AS INDOOR SWIMMING POOL AREAS) SHALL BE COMMERCIAL BLAST CLEANED AND PAINTED WITH THREE COATS OF EPOXY PAINT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL PAINTING SYSTEM SPECIFICATION NO. 13.01. A URETHANE TOPCOAT SHALL BE PROVIDED FOR ALL STEEL EXPOSED TO VIEW.
- i. ALL DAMAGED FACTORY PRIMED OR FACTORY FINISHED PAINTED SURFACES SHALL BE REPAIRED WITH IDENTICAL PAINT. THE TOUCH-UP REPAIR PAINT SHALL BE APPLIED IN A MANNER SUCH THAT THE REPAIR IS NOT VISIBLE FROM A DISTANCE OF SIX FEET.
- j. BOLTS AND FIELD WELDS INSTALLED ON FACTORY FINISH-PAINTED STRUCTURAL STEEL SHALL BE FIELD PAINTED WITH THE SAME PAINTING SYSTEM. THE FIELD APPLIED PAINT SHALL BE APPLIED IN A MANNER SUCH THAT IT CAN NOT BE DIFFERENTIATED FROM THE FACTORY FINISH-PAINTED STRUCTURAL STEEL FROM A DISTANCE OF SIX FEET.

2. HSS AND PIPE FRAMING:

a.OPEN ENDS ON ALL HSS AND PIPE MEMBERS SHALL CLOSED OFF BY INSTALLING 3/8"THICK CLOSURE PLATES ON THE OPEN ENDS AND WELDING IN PLACE WITH 3/16" CONTINUOUS ALL AROUND FILLET WELDS, U.N.O.

J. WOOD:

1. WOOD CONNECTORS AND FASTENERS:

b.WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. PROVIDE FULL FASTENING USING THE LARGEST FASTENER SIZE, TYPE AND QUANTITY AS SPECIFIED IN THE SIMPSON STRONG-TIE CATALOG TO DEVELOP THE PUBLISHED CAPACITY OF THE CONNECTOR.

a. SEE IBC TABLE 2304.9.1 FOR MINIMUM FASTENING REQUIREMENTS

c. WOOD CONNECTOR AND FASTENER FINISH / MATERIAL REQUIREMENTS: CONNECTORS AND FASTENERS SHALL BE MANUFACTURED FROM THE SAME MATERIAL AND SHALL HAVE THE SAME FINISH.

	CONNECTOR & FASTENERS MATERIAL FINISH REQUIREMENTS PRESERVATIVE TREATED WOOD			
ſ				
	UNTREATE	ACQ-C, ACQ-D (CARONATE), CA-B & DBA-A		
	D WOOD	NO AMMONIA	WITH AMMONIA	HIGHER CHEMICAI CONTENT
ſ	G90	316L		

"G185" = ZMAX G185 ZINC GALVANIZED FINISH

"G90" = G90 ZINC GALVANIZED FINISH

"316L" = TYPE 316L STAINLESS STEEL

- BOLTS SHALL BE HOT DIP GALVANIZED A307 BOLTS, U.N.O. - BOLTS SHALL BE TYPE 316 STAINLESS STEEL WHERE STAINLESS STEEL CONNECTORS ARE REQUIRED PER TABLE ABOVE

d.USE 1/2" DIA. LAG BOLTS OR THRU BOLTS AT 24" O.C. TO JOIN MULTIPLE 2x BEAMS OR GIRDERS SO THAT LOAD DISTRIBUTES EQUALLY.

e. PROVIDE STANDARD WASHERS ON ALL BOLTED CONNECTIONS.

2.PRESERVATIVE-TREATED WOOD:

a. ABOVE GROUND PRESERVATIVE TREATED WOOD: WOOD REQUIRED TO BE PRESERVATIVE-TREATED SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1 (COMMODITY SPECIFICATIONS "A" OR "F") FOR ABOVE-GROUND USE.

b.WOOD IN CONTACT WITH GROUND & POSTS / COLUMNS ANCHORED TO FOUNDATIONS OR EMBEDDED IN CONCRETE IN CONTACT WITH EARTH:

WOOD SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1 (COMMODITY SPECIFICATIONS "A" OR "F") FOR SOIL OR FRESH WATER USE.

3.MEMBERS SHALL BE SET WITH CROWN UP AND HAVE MINIMUM OF 3" BEARING.

4.ALL JOISTS AND RAFTERS SHALL BE RIGIDLY BRIDGED AT INTERVALS NOT EXCEEDING 8'-0".

5.ALL WOOD SILL PLATES SHALL BE ANCHORED TO GROUT FILLED CMU OR CONCRETE FOUNDATIONS WITH 1/2" DIA. ANCHORS AT 4'-0" O.C. OR 2 ANCHORS MINIMUM PER MEMBER. ANCHOR BOLTS SHALL BE EMBEDDED A MINIMUM OF 15" INTO MORTAR GROUT AND 8" INTO CAST-IN-PLACE CONCRETE FOUNDATIONS.

6. PREFABRICATED WOOD TRUSSES:

- a.ALL PREFABRICATED WOOD TRUSSES SHALL BE SECURELY FASTENED TO THEIR SUPPORTING WALLS OR BEAMS WITH HURRICANE CLIPS OR ANCHORS. CLIPS OR ANCHORS TO BE APPROVED BY ENGINEER.
- b.PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR STRESS-GRADE LUMBER AND ITS FASTENERS" AS RECOMMENDED BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
- c. TRUSSES SHALL BE DESIGNED TO SUPPORT THE INDICATED DESIGN LOADS PLUS THE SELF-WEIGHTS OF THE TRUSSES.
- d.TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND DESIGN NOTES SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. DESIGN NOTES SHALL INCLUDE THE RATED LOAD CAPACITY OF THE CONNECTORS USED TO CONNECT THE TRUSS MEMBERS AT THE PANEL POINTS, CERTIFICATION OF THE CONNECTOR CAPACITIES AND THE MANUFACTURER'S LICENSE VERIFYING THAT THEY ARE CERTIFIED TO MANUFACTURE THE TRUSSES UTILIZING THE PROPOSED TRUSS CONNECTOR SYSTEM.
- e. THE CONTRACTOR SHALL REVIEW ALL TRUSS FABRICATION AND INSTALLATION DRAWINGS PRIOR TO SUBMITTAL TO THE ARCHITECT AND PRIOR TO FABRICATION.
- f. TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING SHALL BE DESIGNED BY THE TRUSS MANUFACTURER'S ENGINEER. ALL BRACING AND BRIDGING SHALL BE INDICATED ON THE TRUSS INSTALLATION DRAWINGS.
- g. THE CONTRACTOR SHALL KEEP TWO COMPLETE SETS OF THE REVIEWED TRUSS SHOP DRAWINGS AND CALCULATIONS ON THE JOB SITE. ONE SET OF THESE DRAWINGS SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR FOR FRAMING
- h. TRUSSES SHALL BE DESIGNED TO SUPPORT ALL SPECIFIED AND INDICATED LOADS IN ACCORDANCE WITH THE LOAD COMBINATIONS IN THE BUILDING CODE. THE TRUSS MANUFACTURER SHALL LOCATE AND COMPUTE THE MAGNITUDES OF ALL SNOW DRIFT LOADS. THE TRUSS MANUFACTURER SHALL LOCATE AND COMPUTE AND ACCOUNT FOR ALL ADDITIONAL LOADS AND REACTIONS FROM ALL OVER-FRAMING AND PIGGY-BACK TRUSSES CONNECTED TO OR BEARING UPON OTHER SUPPORTING TRUSSES.

7. FLOOR AND WALL SHEATHING:

a.FACTORY-MARK ALL PANELS WITH APA TRADEMARK EVIDENCING COMPLIANCE WITH GRADE REQUIREMENTS.

b. INSTALL PANELS WITH FACE GRAIN PERPENDICULAR TO THE SUPPORTING MEMBERS, UNLESS SHOWN OTHERWISE.

c. FLOOR SHEATHING SHALL HAVE GLUED TONGUE AND GROOVE EDGES AND SHALL BE GLUED AND NAILED TO ALL SUPPORTS.

8. GLUED LAMINATED LUMBER:

a.ALTERNATE CONNECTION DESIGNS SHALL ONLY BE ALLOWED WITH PRIOR APPROVAL OF THE STRUCTURAL ENGINEER, IF SUCH APPROVAL IS GRANTED, ALL CONNECTIONS NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (FABRICATOR REDESIGN) AND ALL ERECTION BRACING SHALL BE DESIGNED BY THE FABRICATOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THIS ENGINEER'S SEAL AND SIGNATURE

b. PROVIDE CAMBER AT MIDSPAN OF ALL MEMBERS AS INDICATED ON PLANS.

K. SPECIAL INSPECTIONS AND TESTS:

1. SPECIAL INSPECTIONS AND TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE IBC 2015 BUILDING CODE. THE SPECIAL INSPECTIONS AND TESTING WILL BE PERFORMED BY AN INDEPENDENT INSPECTION AGENCY HIRED BY THE OWNER. ALL INSPECTIONS AND TESTING SHALL BE DOCUMENTED WITH WRITTEN REPORTS. COPIES OF THOSE REPORTS SHALL BE SUBMITTED TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER AND BUILDING OFFICIAL

a. CONCRETE CONSTRUCTION: IBC SECTION 1705.3 AND TABLE 1705.3

b. WOOD CONSTRUCTION: IBC SECTION 1705.5

c. SOILS: IBC SECTION 1705.6 AND TABLE 1705.6

d. CAST-IN-PLACE DEEP FOUNDATIONS: IBC SECTION 1705.8 AND TABLE 1705.8

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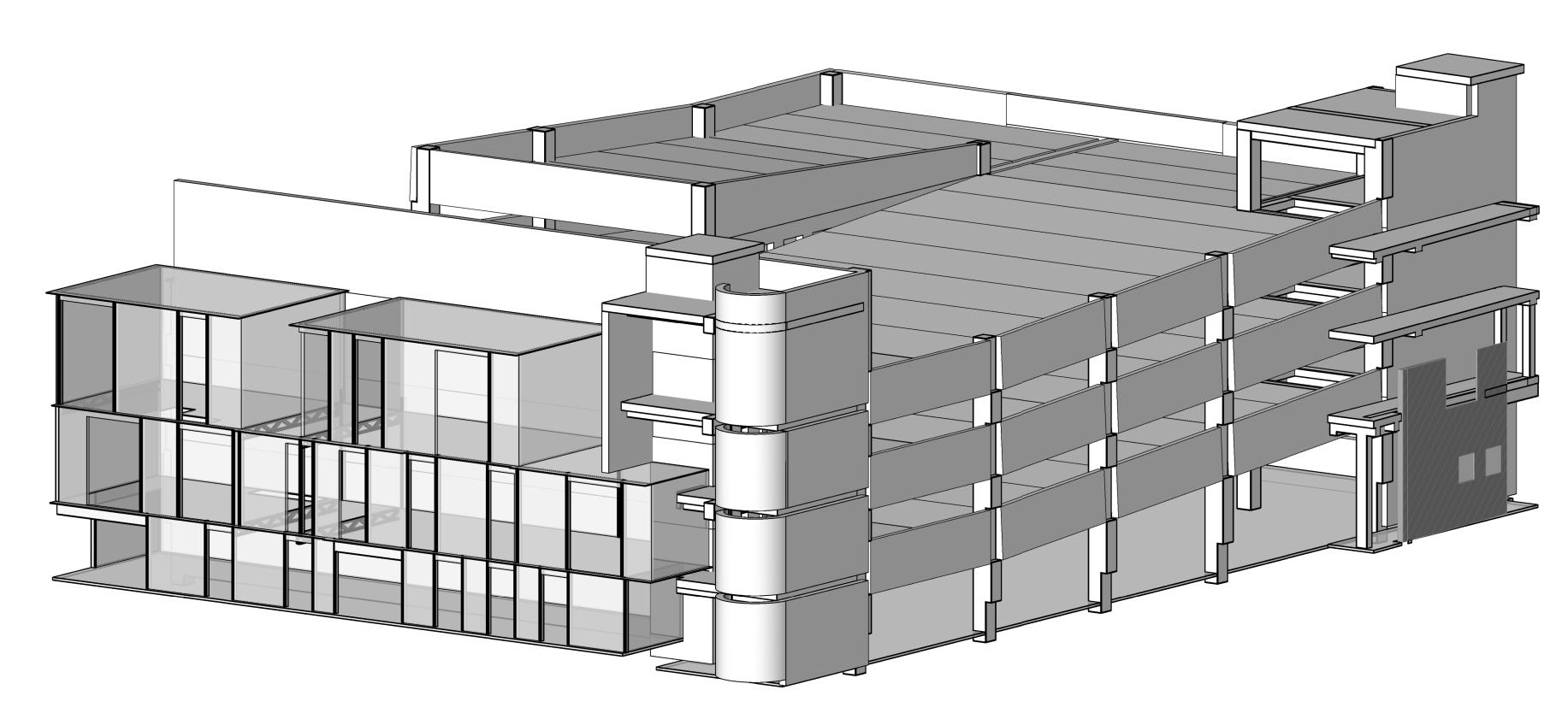
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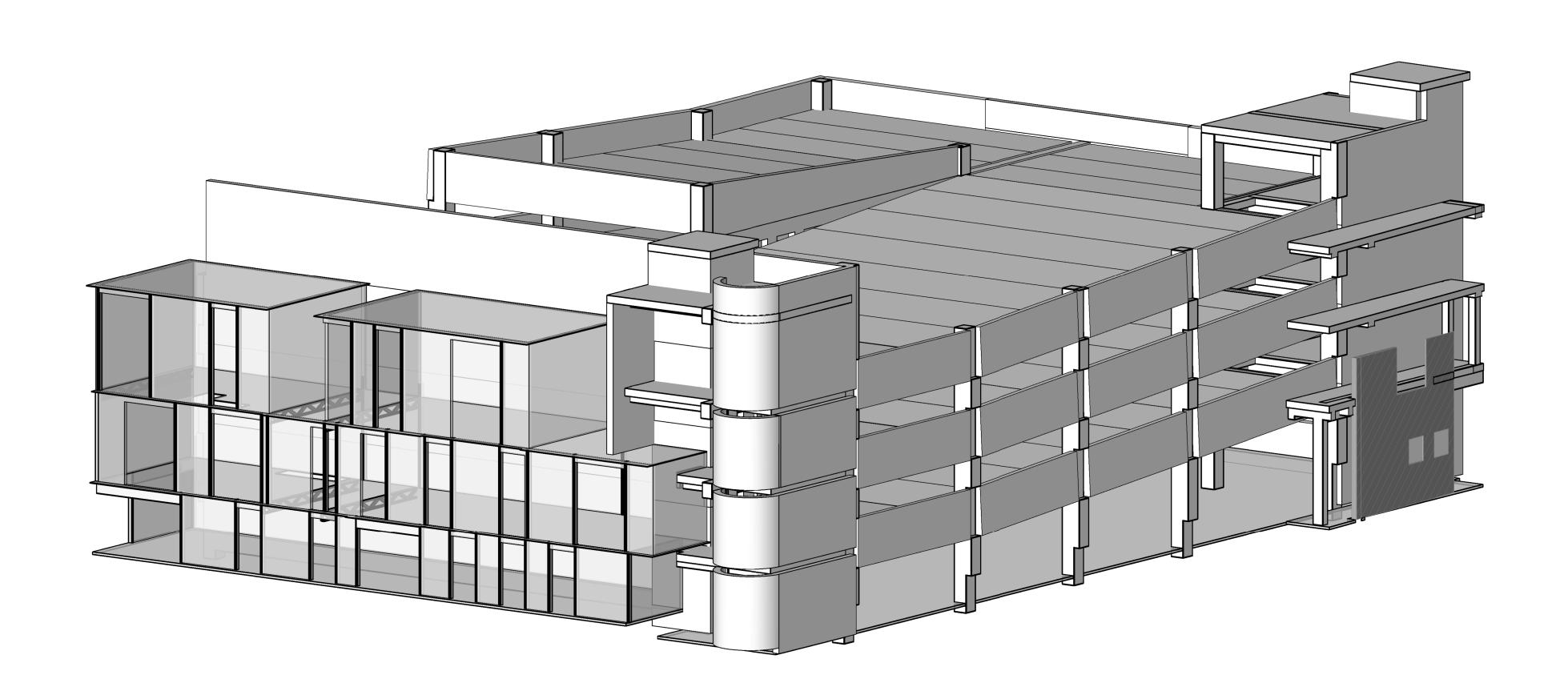
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3D View - Southwest View



2 3D View - Northeast View

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MEP ENGINEER

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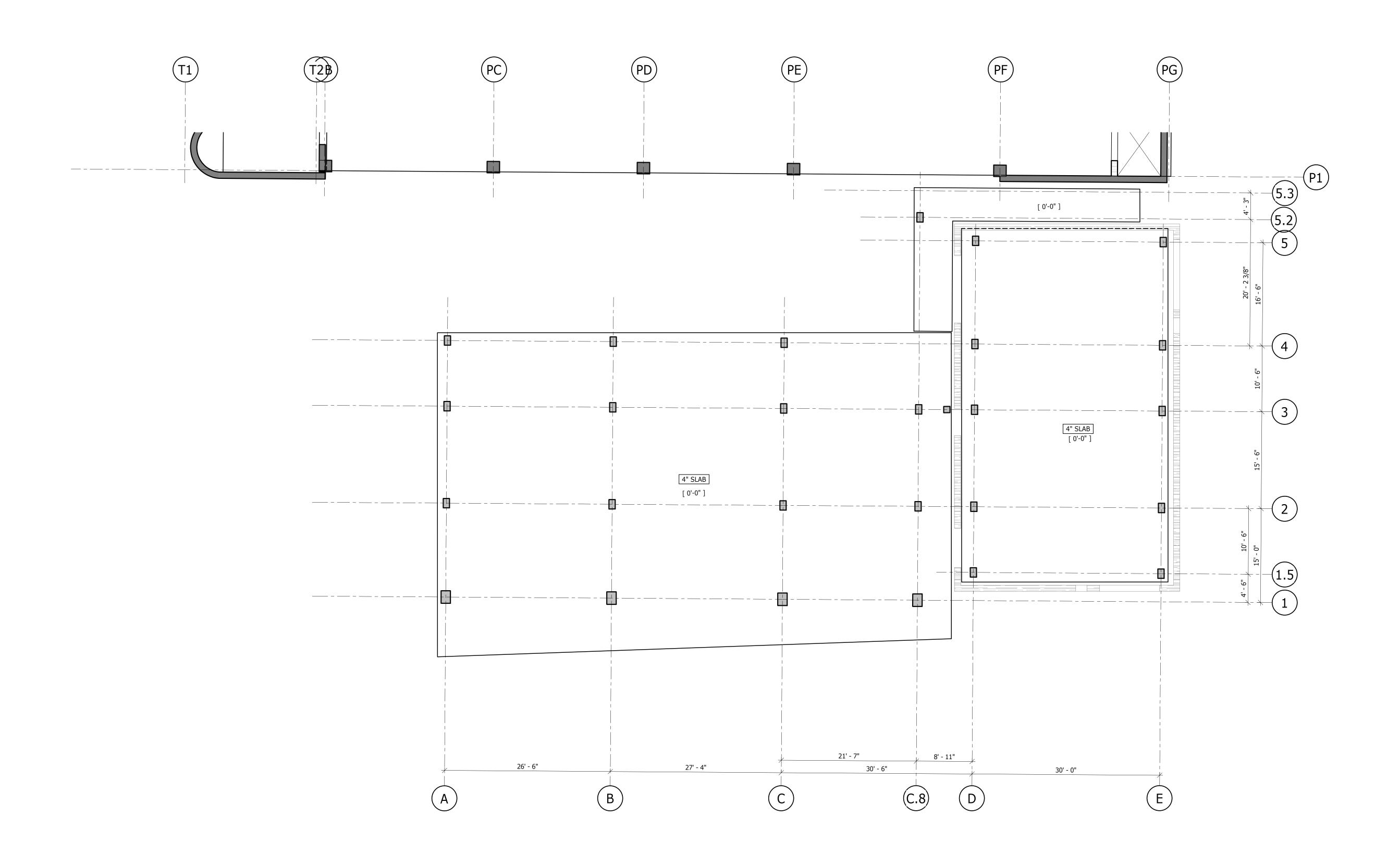
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3D VIEWS



1 FOUNDATION PLAN - AREA A

1003
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RESIDENTAIL FOUNDATION PLAN

S100A

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TRUE NORTH e Harman Group, Inc.

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GARAGE FOUNDATION PLAN

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LANDSCAPE & CIVIL ENGINEER

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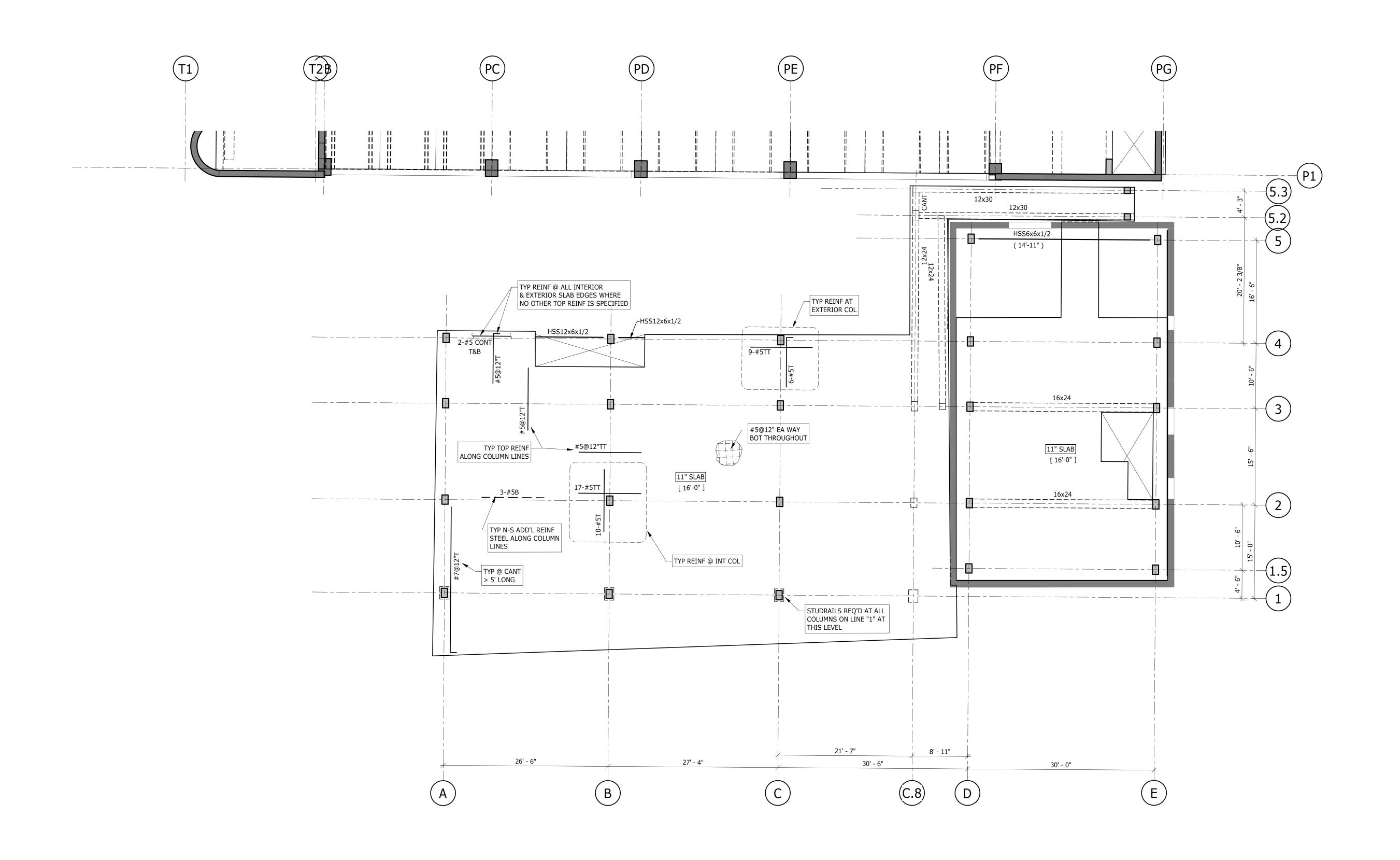
MEP ENGINEER

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LEVEL 2 FRAMING PLAN - AREA A

2827 JOHN R STREET **DETROIT MI 48201**

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LANDSCAPE & CIVIL ENGINEER

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LEVEL 2 FRAMING PLAN

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04/20/2018

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GARAGE LEVEL 2 FRAMING PLAN

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LEVEL 3 FRAMING PLAN - AREA A

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LANDSCAPE & CIVIL ENGINEER

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LEVEL 3 FRAMING PLAN

86 S 1 0 2 A

SCALE: 1/8" = 1'-0"

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LEVEL 3 FRAMING PLAN - AREA B

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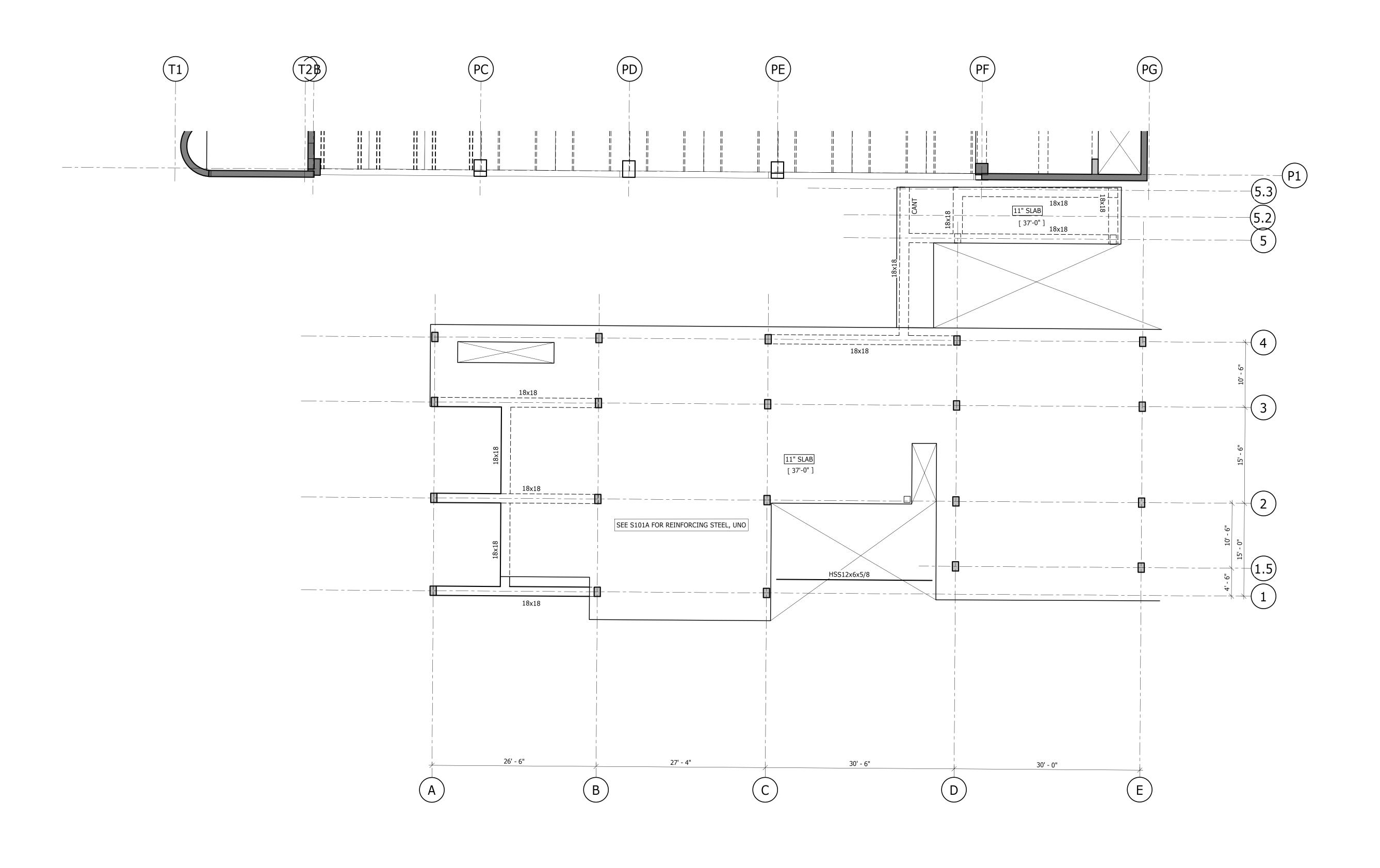
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	1

GARAGE LEVEL 3 FRAMING PLAN

SCALE: 1/8" = 1'-0"



LEVEL 4 FRAMING PLAN - AREA A

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DETROIT MI 48201

OWNER BRUSH PARK PROPERTIES, LLC 79 ALFRED STREET DETROIT, MICHIGAN 48201

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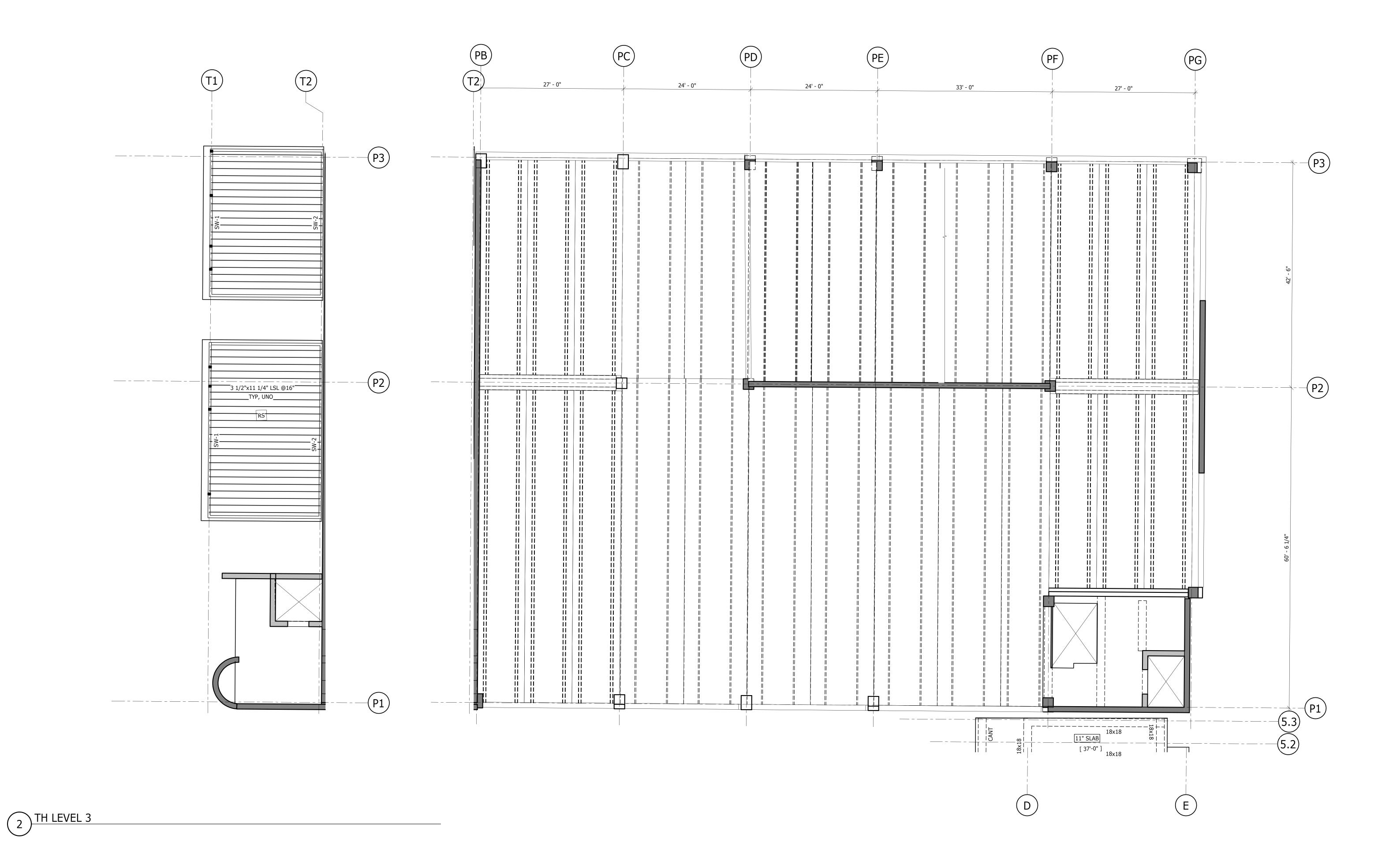
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LEVEL 4 FRAMING PLAN

86 S 1 0 3 A

TRUE NORTH
NORTH
SCALE: 1/8" = 1'-0"



LEVEL 4 FRAMING PLAN - AREA B

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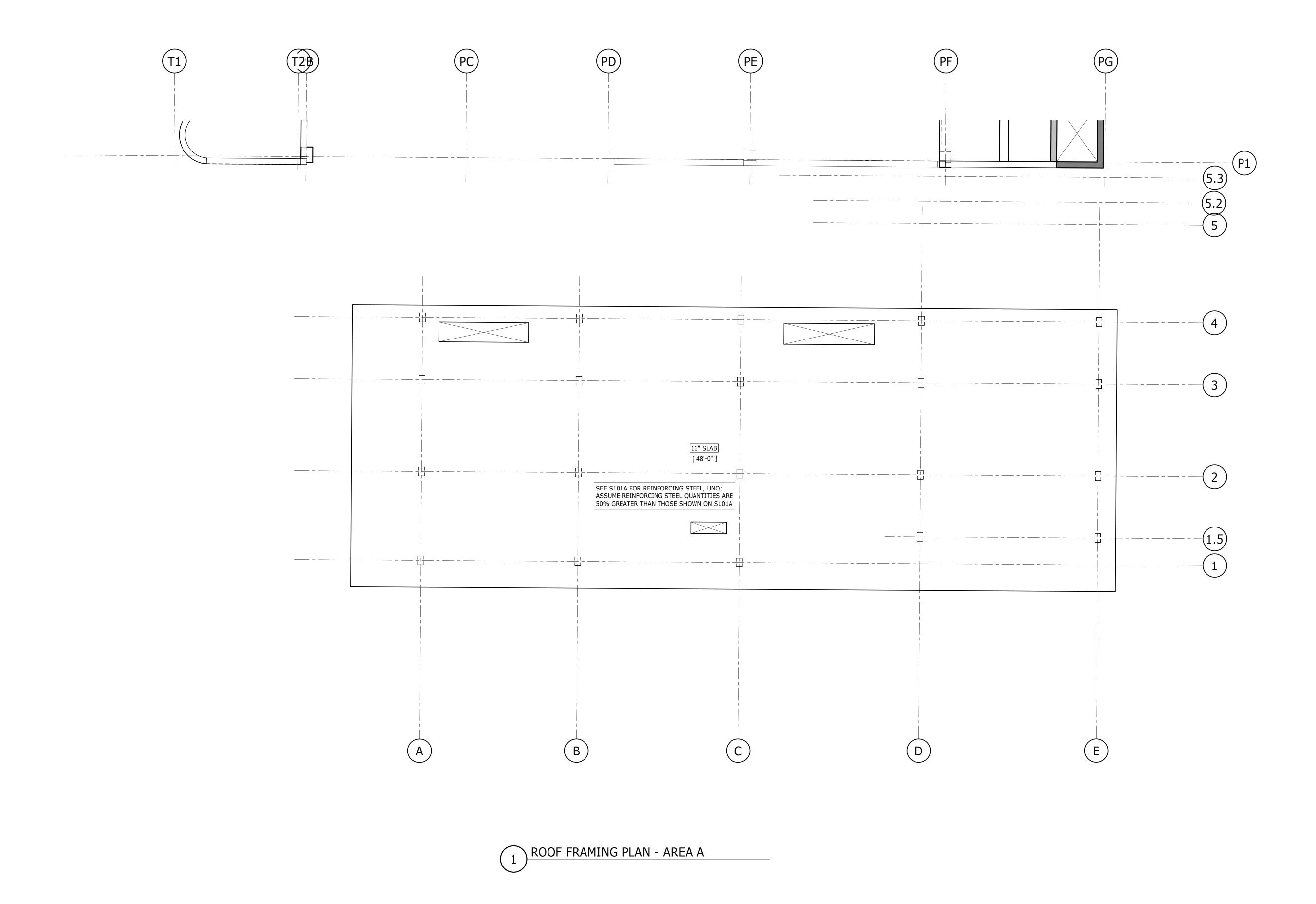
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GARAGE LEVEL 4 FRAMING PLAN

04/20/2018 SCALE: 1/8" = 1'-0"



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ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

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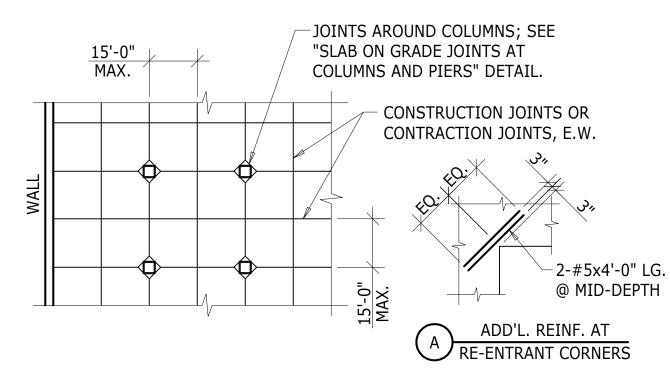
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GARAGE ROOF FRAMING LEVEL

SCALE: 1/8" = 1'-0"

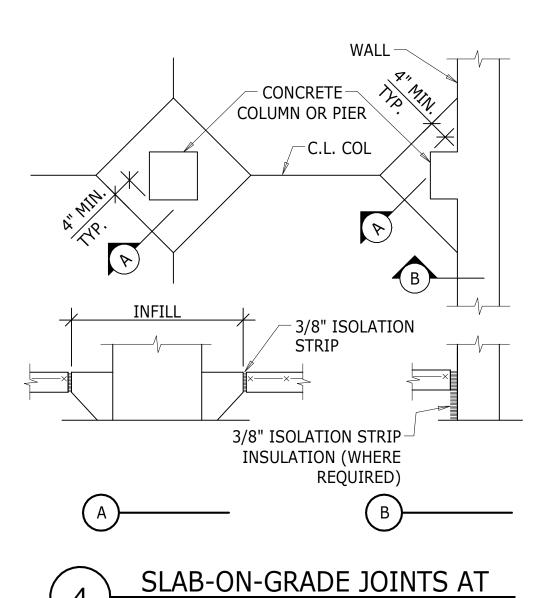
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2 HIGH ROOF FRAMING PLAN - AREA B

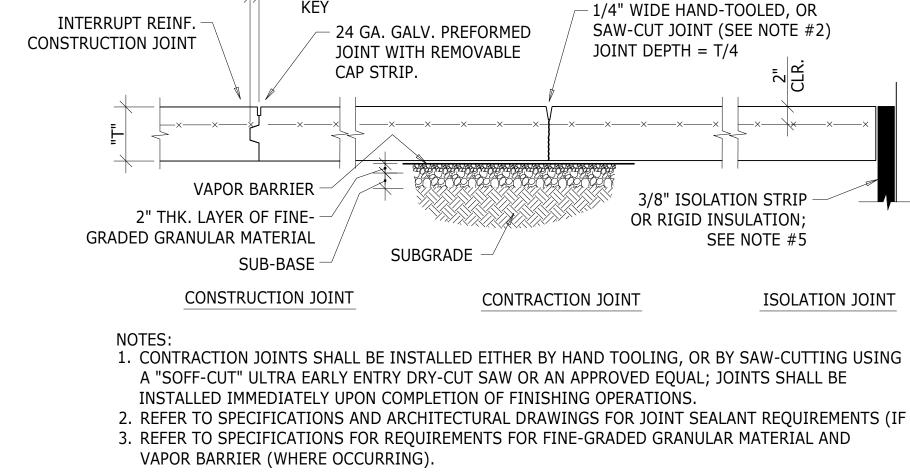


- 1. LOCATE CONSTRUCTION JOINTS AND CONTRACTION JOINTS ON ALL COLUMN GRID LINES AND SUB-DIVIDE AS REQUIRED TO LIMIT MAXIMUM SPACING BETWEEN JOINTS TO MAXIMUM DIMENSIONS INDICATED ABOVE.
- 2. LOCATE JOINTS IN A PATTERN THAT SUB-DIVIDES SLAB INTO PANELS THAT ARE SQUARE OR RECTANGULAR AND THAT HAVE AN ASPECT RATIO BETWEEN 1.0 (PREFERRED) TO 1.5.
- 3. PROVIDE JOINTS AT ALL RE-ENTRANT CORNERS OR PROVIDE REINFORCING PER DETAIL "A" AT RE-ENTRANT CORNERS WHERE JOINTS CAN NOT OCCUR.

SLAB-ON-GRADE JOINT ARRANGEMENT



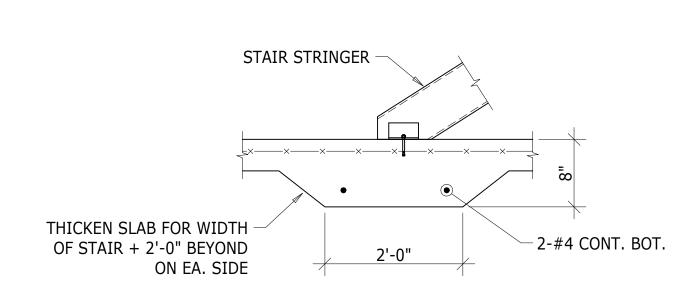
COLUMNS, PIERS AND WALLS



3/4" CONT.

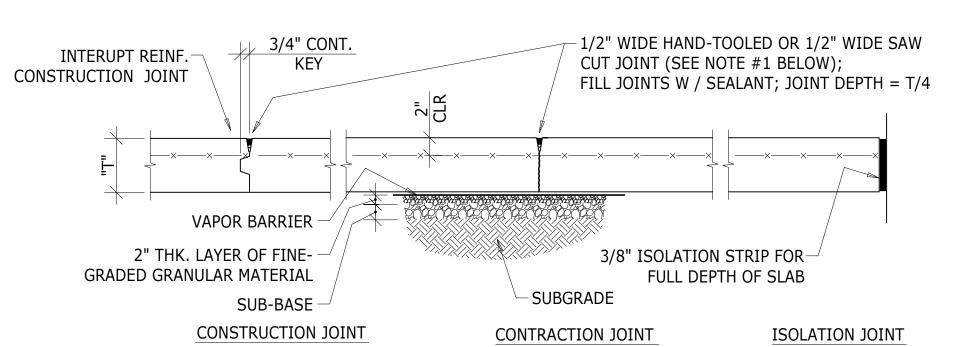
- 2. REFER TO SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR JOINT SEALANT REQUIREMENTS (IF ANY).
- 4. REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS FOR SUB-BASE MATERIAL.
- 5. SEE ARCHITECTURAL DRAWINGS FOR LOCATION, EXTENT, TYPE AND THICKNESS OF RIGID INSULATION WHERE REQUIRED.

SLAB-ON-GRADE CONSTRUCTION



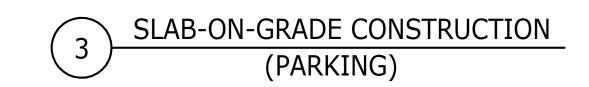
SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL STAIRS.

THICKENED SLAB ON GRADE BELOW STAIR STRINGER



1. CONTRACTION JOINTS SHALL BE INSTALLED EITHER BY HAND TOOLING, OR BY SAW-CUTTING USING A "SOFF-CUT" ULTRA EARLY ENTRY DRY-CUT SAW OR AN APPROVED EQUAL; JOINTS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF FINISHING OPERATIONS. 2. REFER TO SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR JOINT SEALANT REQUIREMENTS (IF ANY). 3. REFER TO SPECIFICATIONS FOR REQUIREMENTS FOR FINE-GRADED GRANULAR MATERIAL AND VAPOR BARRIER (WHERE OCCURRING).

4. REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS FOR SUB-BASE MATERIAL.



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MEP ENGINEER

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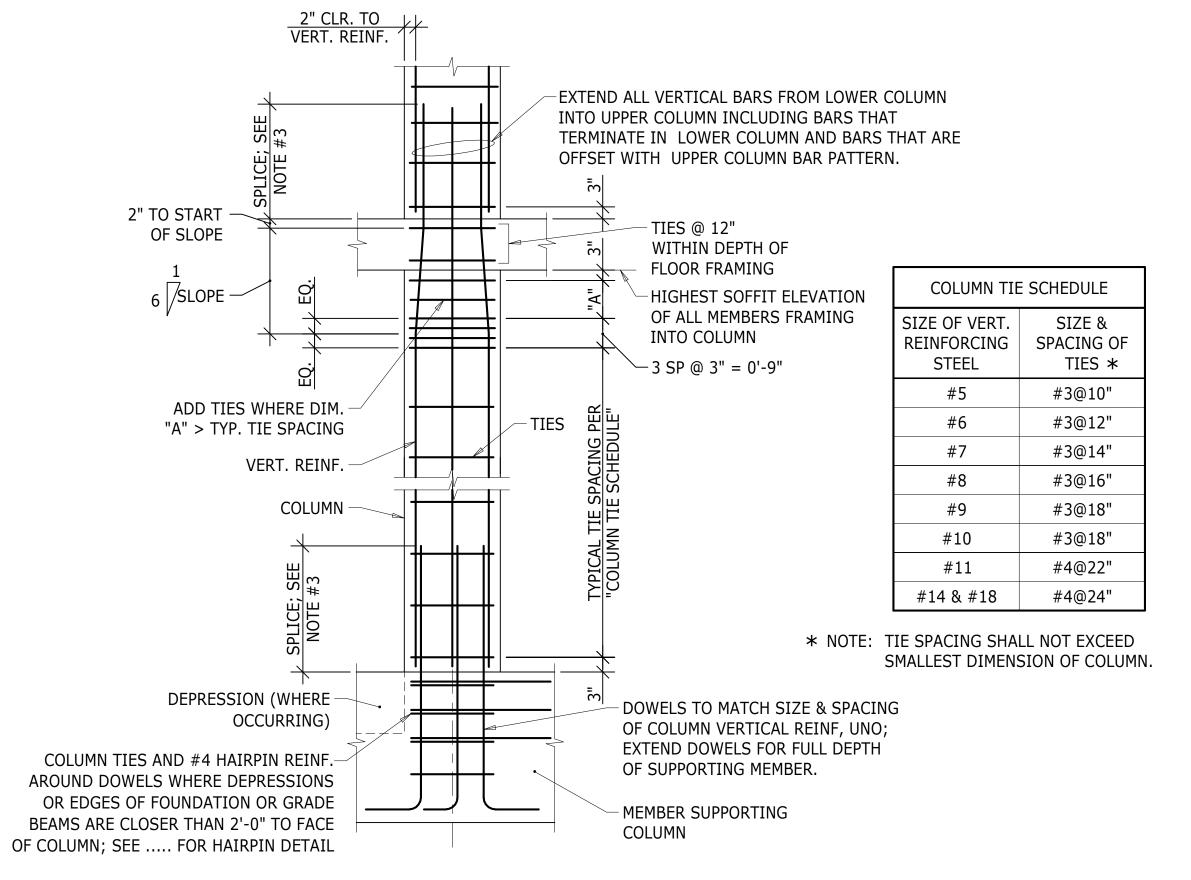
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DRAWING ISSUE	DATE

TYPICAL DETAILS

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NOTES: 1. SEE COLUMN SCHEDULE FOR COLUMN DIMENSIONS AND REINFORCING STEEL 2. SEE "COLUMN VERTICAL REINFORCING STEEL & TIE BAR ARRANGEMENTS" FOR

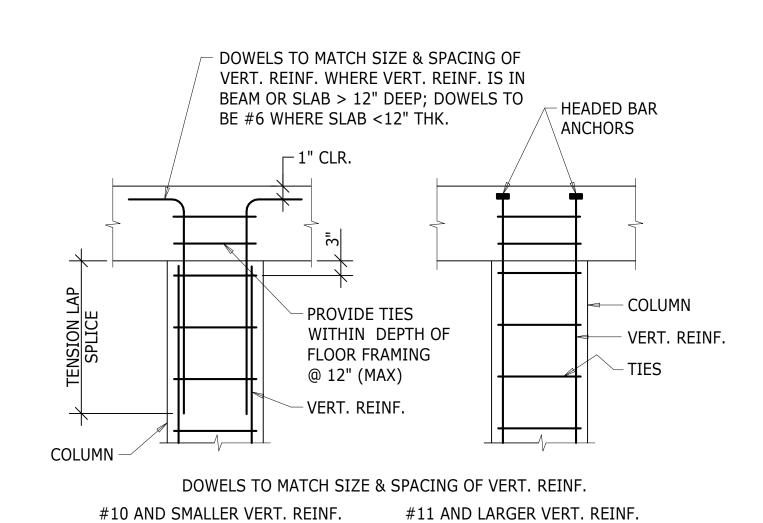
CONFIGURATION OF VERTICAL BARS & TIES. 3. LAP SPLICE VERTICAL REINFORCING STEEL WITH TENSION LAP SPLICES, UNO.

COLUMN REINFORCING STEEL PLACEMENT

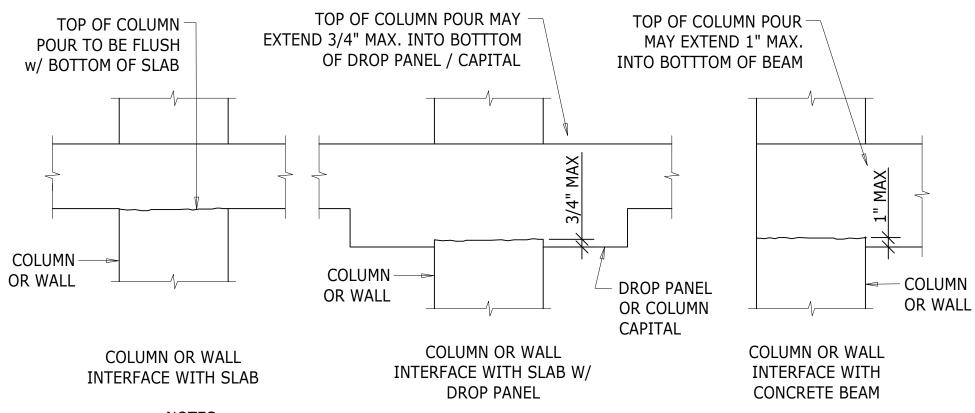
-SPIRAL TIES OR CIRCULAR TIES w/ 90 DEGREE HOOKS WRAPPED AROUND VERT BARS; ROTATE TIES TO LOCATE HOOKS ON ADJACENT TIES TO WRAP AROUND DIFFERENT VERTICAL (4) BARS (6) BARS (8) BARS (12) BARS ROUND COLUMN BARS.

1. ALTERNATE THE LOCATION OF CORNER HOOKS ON CLOSED TIES AROUND THE PERIMETER OF THE COLUMN BETWEEN ADJACENT CORNERS ON SUCCESSIVE SETS OF TIES.

2. ALTERNATE THE LOCATION OF THE 90 ° & 135° HOOKS ON SUCCESSIVE SETS OF TIES. 3. PERIMETER CLOSED TIES INSTALLED WITHIN DEPTH OF FLOOR FRAMING MAY BE FABRICATED AS TWO-PIECE TIES.

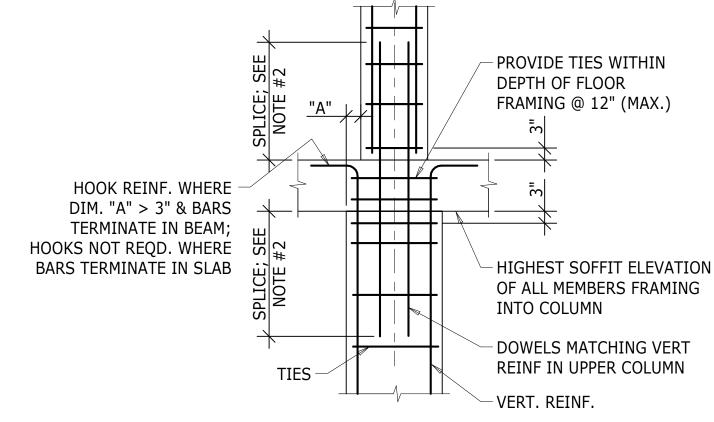


COLUMN REINFORCING AT TOP LEVEL



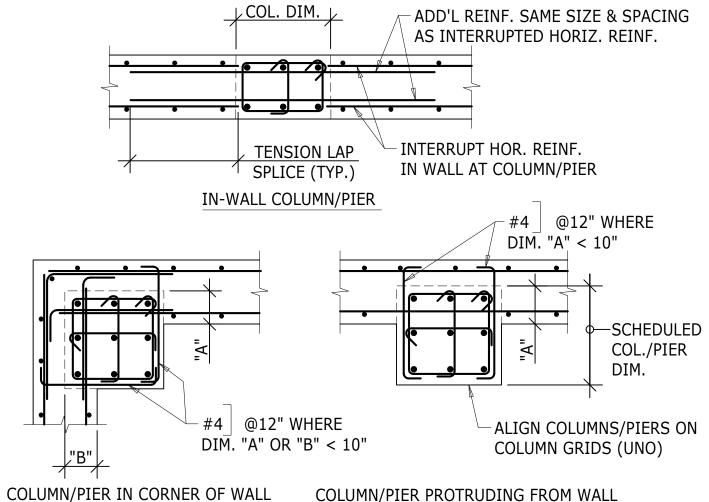
1. WHERE COLUMN POUR EXTENDS INTO BOTTOM OF FLOOR FRAMING FARTHER THAN PERMITTED, CHIP COLUMN CONCRETE FLUSH TO UNDERSIDE OF FLOOR FRAMING FOR 2" WIDTH AROUND PERIMETER OF COLUMN. 2. TOP OF COLUMN POUR MAY STOP 1" MAX. BELOW BOTTOM OF FLOOR FRAMING.





- 1. SEE "COLUMN REINFORCING STEEL PLACEMENT" DETAIL FOR NOTES AND ADDITIONAL INFORMATION.
- 2. LAP SPLICE VERTICAL REINFORCING STEEL WITH TENSION LAP SPLICES, U.N.O.

REINFORCING STEEL PLACEMENT AT COLUMN SIZE TRANSITION



5. COLUMNS SHOWN; PIERS SIMILAR

- 1. SEE SCHEDULE FOR COLUMN/PIER DIMENSIONS AND REINFORCING.
- 2. CONSTRUCT AJOINING CONCRETE WALLS MONOLITHIC WITH COLUMNS/PIERS. 3. INSTALL HORIZONTAL WALL REINFORCING STEEL CONTINUOUS THROUGH INTERSECTING COLUMNS/PIERS OR SPLICE HORIZONTAL REINFORCING WITH TENSION LAP SPLICES IF REQUIRED TO PERMIT PROPER PLACEMENT OF
- COLUMN/PIER REINFORCING STEEL. 4. WHERE STEEL COLUMNS (NOT SHOWN) BEAR ON PIERS, INFILL POCKETS IN TOPS OF WALLS SOLID w/ CONCRETE AFTER INSTALLATION OF STEEL COLUMNS.
- CONCRETE COLUMN/PIER WALL INTERFACE

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MEP ENGINEER

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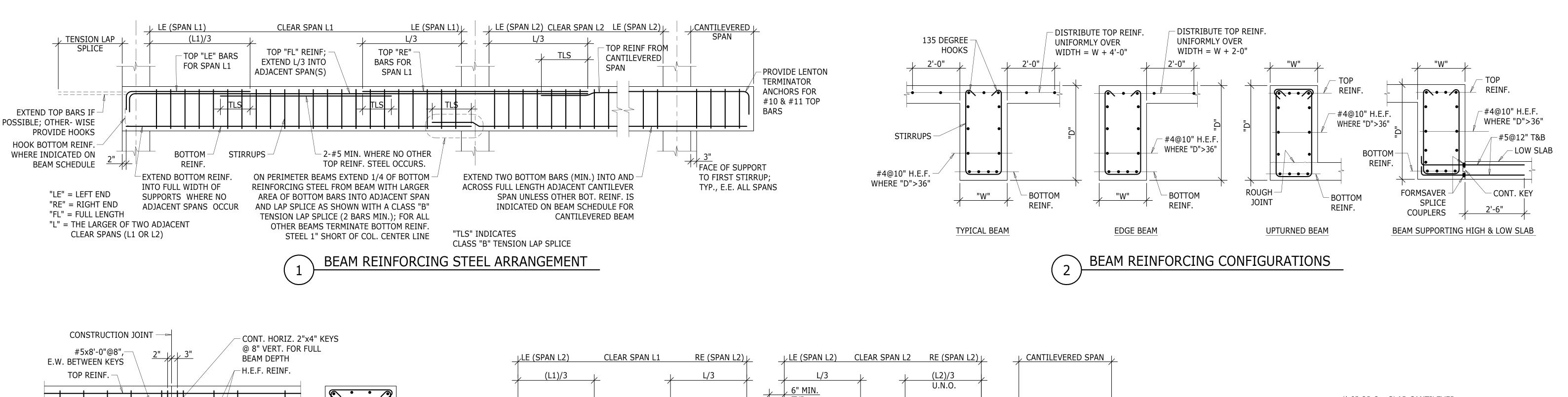
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TYPICAL DETAILS



TOP AND BOTTOM REINFORCING STEEL TO BE CONTINUOUS THROUGH THE CONSTRUCTION JOINT. BEAM CONSTRUCTION JOINT

- 2 ADD'L SETS OF STIRRUPS @

3" ON EA SIDE OF C.J.

BOTTOM REINF.

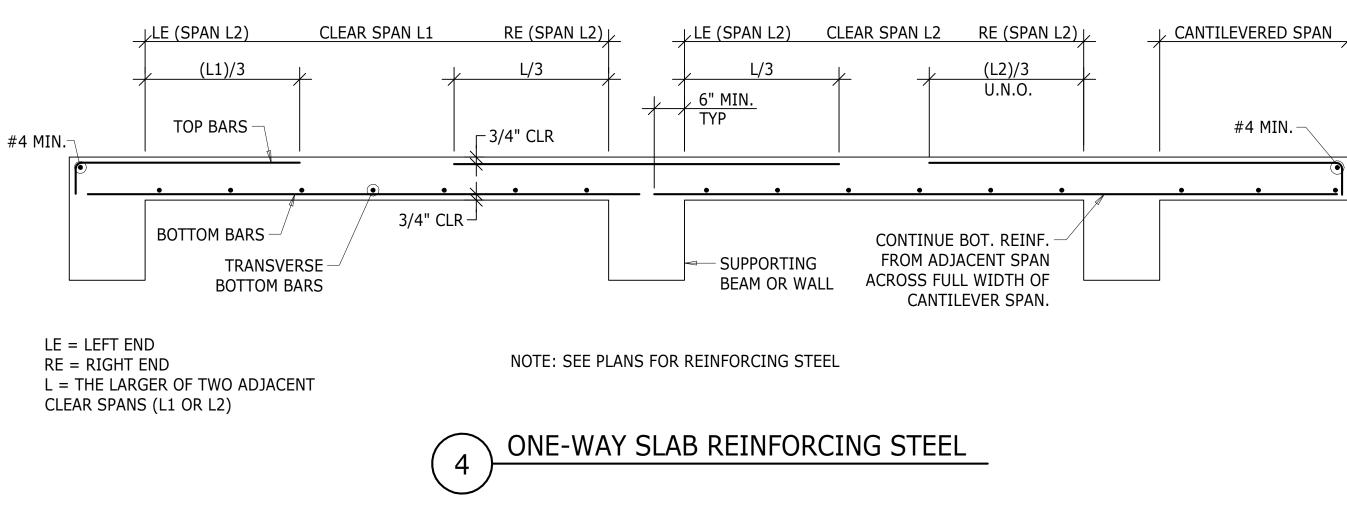
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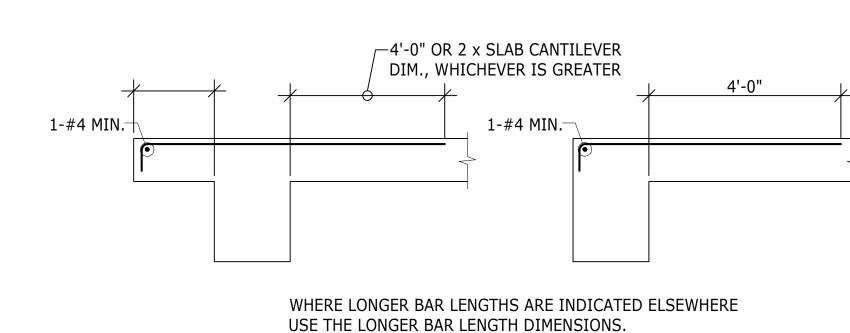
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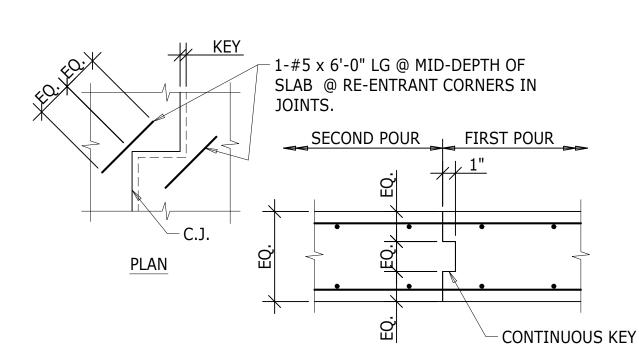
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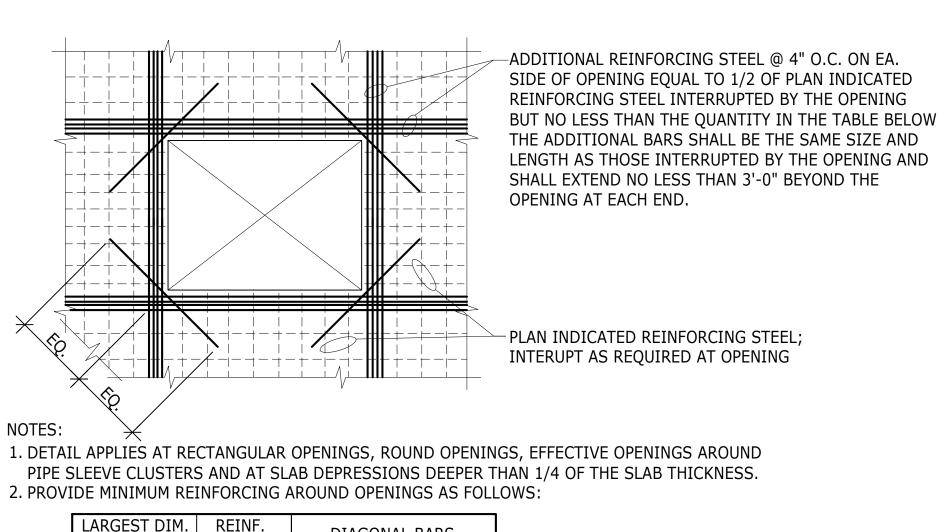


TOP REINFORCING STEEL PERPENDICULAR TO ONE-WAY SLAB SPAN AT SLAB EDGES



1. LOCATE CONSTRUCTION JOINTS WITHIN MIDDLE THIRD OF SLAB SPAN. 2. ALL SLAB REINFORCING STEEL TO BE CONTINUOUS THROUGH CONSTRUCTION JOINTS; WHERE NO TOP BARS OCCUR AT THE JOINT, INSTALL #4x4'-0" @12" TOP CENTERED OVER THE JOINT.

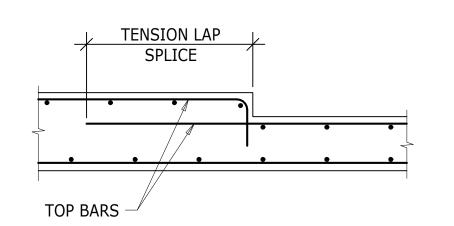
CONSTRUCTION JOINT IN FRAMED SLAB



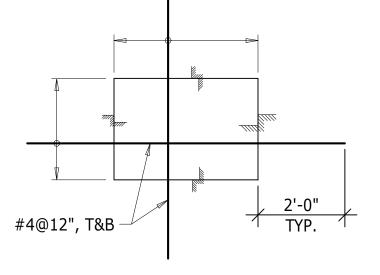
LARGEST DIM. | REINF. DIAGONAL BARS OF OPENING | STEEL 1'-1" TO 2'-0" | 1-#4 T&B NONE 2'-1" TO 4'-0" | 1-#5 T&B 1-#4 x 4'-0" MID-DEPTH 3'-1" TO 6'-0" | 1-#6 T&B | 1-#5 x 5'-0" MID-DEPTH 2-#6 T&B | 1-#5 x 5'-0" MID-DEPTH

3. WHERE OTHER REINFORCING IS INDICATED AROUND OPENINGS ON THE FRAMING PLANS, THAT REINFORCING STEEL SUPERCEDES THE REINFORCING STEEL SPECIFIED IN THIS DETAIL.





SLAB REINFORCING AT DEPRESSION



INSTALL ADDITIONAL BARS AROUND DEPRESSION PER THE "REINFORCING AT SLAB OPENING" DETAIL.

ADDITIONAL REINFORCING AT **SLAB DEPRESSIONS**

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